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MT. TRUMBULL - MT LOGAN WILDERNESSES

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MT. TRUMBULL AND MT. LOGAN

WILDERNESS MANAGEMENT PLAN

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VERMILLION RESOURCE AREA

MOHAVE COUNTY, ARIZONA

March 3, 1849

United States Department of the Interior

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ARIZONA STRIP DISTRICT OFFICE
390 NORTH 3050 EAST
ST. GEORGE, UTAH 84770

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:

May 1989

Enclosed for your review and comment is the Draft Mt. Trumbull and Mt. Logan Wilderness Management Plan. Bureau policy requires that a management plan be prepared for all designated wilderness areas on public lands. This plan will establish the management direction and objectives, as well as management actions for these Wildernesses.

Parts I through IV of the draft plan offer background information on wilderness management and the Mt. Trumbull and Mt. Logan Wildernesses. Part V is the Wilderness Management Program. The Environmental Assessment, Part VI describes the management action we propose and offers five alternatives. Part X is a collection of Appendices, one of which is a draft Fire Management Plan for these areas.

There will be a 45 day public comment period, that will begin with a publication announcement in the Federal Register. We will welcome your written comments for inclusion in the management plan. Copies of the final Mt. Trumbull and Mt. Logan Wilderness Management Plan will be provided to those who submit comments and to others upon request.

Thank you for your interest in the Mt. Trumbull and Mt. Logan Wildernesses.

Sincerely yours,

Robert D. Roudabush

Area Manager, Vermillion Resource Area

Sincerely yours,

G. William Lamb

District Manager, Arizona Strip District

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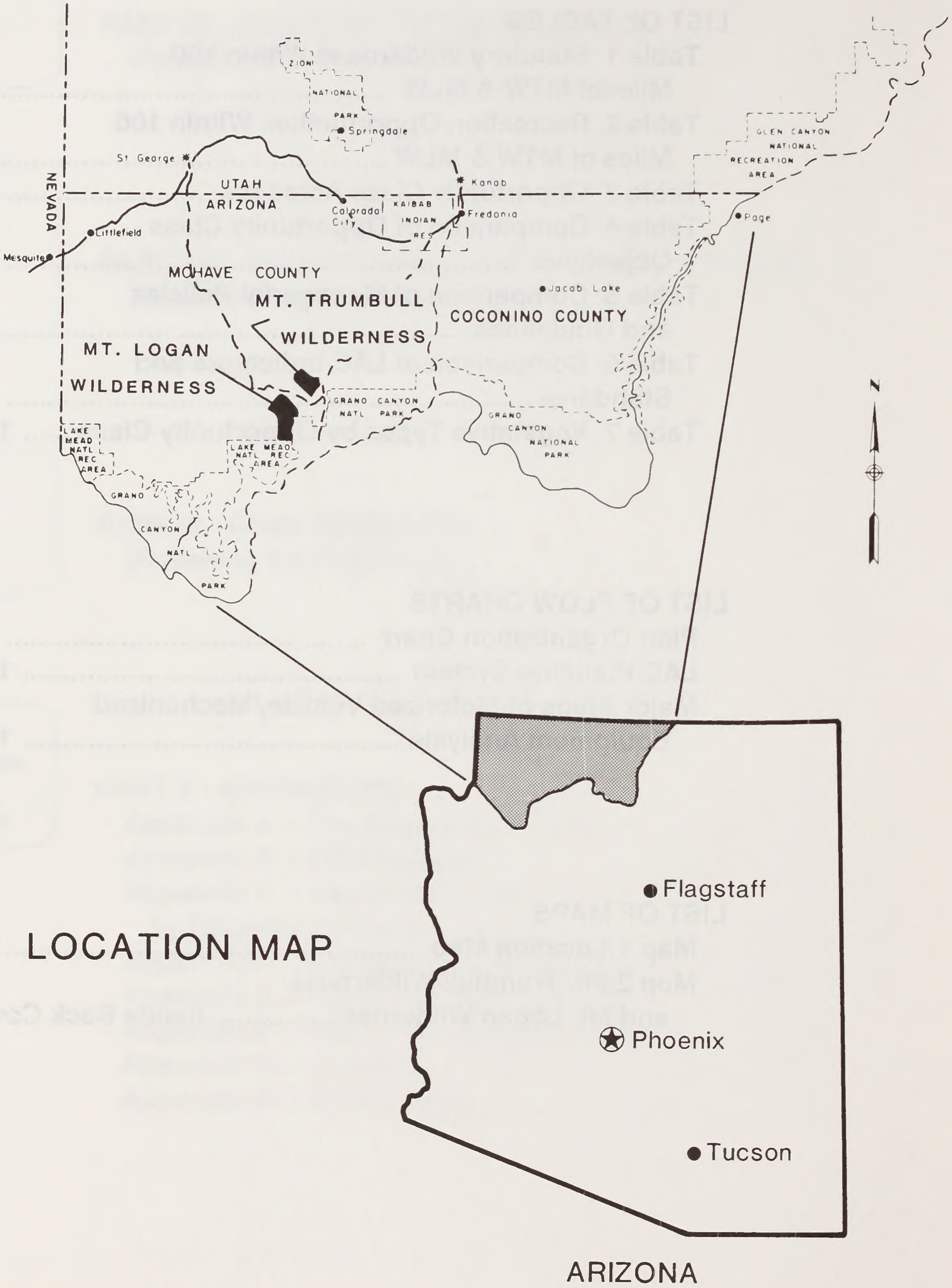
LOCATION MAP



PART I INTRODUCTION

Purpose of Management Plan

The purpose of this plan is to provide management guidance for the Mt. Trumbull and Mt. Logan Wildernesses. Because these two areas have very similar resource characteristics and management issues, they are being managed under one plan. Throughout the development of this plan, the Arizona Wilderness Act of 1984 and the Wilderness Act of 1964 are used to guide the development of objectives, policies and the kind, type and method of management actions needed to maintain or enhance the wilderness resources and values.

A zoning concept is used in this plan. Three zones or opportunity classes are selected to guide management of the wildernesses (See Map A). The three classes, while not formally named, roughly correspond to pristine, primitive recreational and human-influenced or transitional. These classes help BLM to determine actions to better protect existing values of naturalness, solitude and primitive and unconfined recreation opportunities. It also enables BLM to focus management decisions and actions in areas where there is a need to address past and/or present human influences.

This plan projects 10 years into the future with development of management objectives, policies and actions. It is designed to be a working document for on-the-ground management. The Limits of Acceptable Change (LAC) system provides direction for much of the monitoring and effectively focuses BLM activities to areas where management attention is needed. Since planning cannot anticipate all future issues, this document is intended to be reviewed annually and updated as needed to provide maximum protection for the wilderness values. Additional resource data and user information will be incorporated in the plan. The working document will be available for public review at the Vermillion Resource Area Office.

With the State Director's approval of the Wilderness Management Plan, authority to carry out its policies and actions are delegated to the District Manager except where delegation is specifically stated otherwise.

Wilderness Area Overview

Natural Values

The lands found within Mount Trumbull Wilderness (MTW) and Mount Logan Wilderness (MLW) constitute much of the central mass of the Uinkaret Mountains; a north-south trending chain of dormant cinder cones, lava flows, and basalt-capped mesas displaying five different periods of vulcanism. The older basalt flows lie atop foundational remnants of the Moenkopi Formation and small traces of the Chinle Formation, protecting these layers from the erosional forces that stripped away much of this formation throughout the region. Hell's Hole, in MLW, best displays not only the colorful nature of the Moenkopi, but also its great vulnerability to erosion when unprotected from above by basalt. The resulting topography in MTW and MLW is one of high relief, rounded cones, steep slopes, abrupt rims, and several small areas of gentle, sloping terrain atop the basalt flows.

Generally sagebrush and grasses are dominate in the lower elevations. As slopes increase and aspects are more south and west, nearly pure stands of pinyon and juniper are found. At higher elevations in pockets where greater moisture accumulates, small stands of aspen, shrub oak and locust seem to flourish. The gently sloped summits of Mt. Trumbull and Mt. Logan and the high passes north of Mt. Emma support ponderosa pine forests intermingled with sagebrush, grasses, pinyon-juniper and locust. Finally, several areas from Slide Mountain south to Mt. Emma support manzanita, cliffrose and other mountain shrub species, which were naturally established following large wildfires.

The various vegetative zones provide habitats for a variety of wildlife species. Notable, but non-native, residents include the bushy tailed, tassel-eared Kaibab squirrel, and the wily and colorful Merriam's turkey. Native species that may frequent the area include small numbers of mule deer, coyotes, mountain lions, golden eagles, various hawks and even black bears occasionally.

The remote location of these wildernesses and the screening created by the topography and vegetation combine to provide outstanding opportunities for seclusion and isolation. These same qualities also provide excellent opportunities to view and photograph interesting landforms and sweeping vistas of the Grand Canyon and much of the Arizona Strip. Hiking, primitive camping and hunting opportunities are excellent in these areas. Evidence of prehistoric and historic human use and habitation contribute a different perspective to the natural values present.

History of Human Use

The dark, brooding mountains of the Uinkaret Plateau have witnessed thousands of years of human activity; all of it depending on varied natural resources the mountains offered: game, wild plant foods, water, fertile soil, timber, minerals and grass. Humans occupied the region by 2600 B.C. They left behind split-twig figurines in dry rockshelter deposits in the nearby canyons of the Colorado. Few archeological sites attributed to this cultural tradition, known as the Western Archaic, can be documented for the Uinkaret Mountains. Occasionally, surface finds of stone tools manufactured during this period have been found. No doubt further research will discover more substantial evidence of these people using the region. The Archaic life-way was centered around the seasonal exploitation of a wide variety of wild plant and animal resources.

By about 1 A.D., evidence of horticulture appears in northwestern Arizona. It is unclear whether the groups that practiced horticulture were descendants of the Archaic peoples or were recent migrants to the area, displacing previous populations. This new culture is known as the Anasazi and can be divided into five periods, beginning with Basketmaker II (Basketmaker I equates with the Archaic), Basketmaker III, Pueblo I, II, and III.

Abundant evidence of Anasazi occupation of the Uinkaret Mountains exists in the form of small and large habitation sites, agricultural features, camp sites and rock art. The majority of these sites date to the Pueblo II period--the eleventh and twelfth centuries.

Recent radiocarbon dates from the excavation of a small pueblo in the Kanab Plateau, about twenty miles northeast of Mt. Trumbull, suggest that some Anasazi groups may have remained in the area until the mid 1200s. However, other areas of the region seem to have been abandoned by the Anasazi by 1150 A.D. Some archeologists have speculated that the Anasazi retreated to the east, into the neighboring Kayenta Anasazi area. Others believe that they are ancestral to the Southern Paiute, the last native American group to inhabit the region. Neither of these theories have been tested with adequate data.

The initial date of Southern Paiute occupation of northwestern Arizona is not known with any certainty. In southern Nevada, Paiute ceramics have been found associated with Anasazi remains in stratigraphic associations suggesting that the two groups were contemporaneous. In the Mt.Trumbull/Mt. Logan area, Paiute ceramics were found on several Anasazi pueblo sites. In the Grand Canyon, a Paiute site near the mouth of Whitmore Wash has been dated to 1285 A.D. Farther east, a radiocarbon date of 1372 A.D. was derived from Paiute materials which were overlying Anasazi deposits.

Subsistence patterns of the Southern Paiute consisted of a dependence on both hunting-gathering and horticulture. Careful timing of activities such as harvesting pinyon nuts and grass seeds, the cultivation of domesticated plants and hunting were necessary in order to fully utilize the wide range of environments.

These subsistence patterns are reflected in the semi-permanent and seasonal nature of Southern Paiute habitations. Habitation areas are usually near a permanent water source such as a spring. Structures known as wickiups were built of juniper or pinyon boughs set in a circular arrangement. Artifacts associated with Southern Paiute sites included Desert Side-Notched projectile points, flat or basin metates, manos, and conical brownware ceramic vessels.

Although archeological evidence of Southern Paiute occupation in the Uinkaret mountains is slim, ethnographic accounts confirm the presence of a band in the area named Uinkaret. During John Wesley Powell's first Colorado River expedition, he discovered a Paiute garden at the mouth of Whitmore or Parashant canyon. A year or so later he visited with the Uinkaret band and made observations on some aspects of their culture. Powell was the first and last to document the lives of the Paiute band who named the region "Uinkaret" which means "Place of Pines". In 1934, Isabelle Kelly, an ethnographer of the Southern Paiute, declared the band extinct.

The Spanish priest-explorers Dominguez and Escalante were probably the first Europeans to see the Uinkaret Mountains during their entrada into the region in 1776. However, their route across the Arizona Strip from west to east passed well to the north of the mountains. This region remained unexplored by Euro-Americans for more than fifty years. As Wallace Stegner so aptly put it:

> *From the eighteen-twenties until the near-extermination of the beaver the mountain men had trapped eastern and northern Utah, southern Wyoming, western Colorado. But these were traverses only, touches; this country had never been spread out and walked over and brought within the control of definite lines on paper. Large parts of it had only been circumnavigated, never really visited at all. The real unknown lay between the Uinta Valley and Gunnison's Crossing...and between that crossing and the mouth of the Paria, now Lee's Ferry, Arizona; and below that to the foot of the Grand Wash Cliffs, south of present St. George, Utah. The crossings had been located; the hinterlands were a tantalizing blank marked, in a cartographer's neat lettering "Unexplored".*

The first recorded Euro-American exploration of the Uinkaret mountains occurred in 1870. John Wesley Powell, accompanied by Mormon Indian missionary Jacob Hamblin and a party of both whites and Kaibab Paiute, left from the fort at Pipe Springs. The purpose of the trip was to inquire into the deaths of O.G. and Seneca Howland and Bill Dunn. These men had disappeared after leaving Powell's first Colorado River expedition at a place now known as Separation Rapid. Powell also wished to secure from the Indians of that region a promise that his men could further explore the country unmolested. The route the party took, from their camp at Witches' Pool northeast of Mt. Trumbull, to their destination at a Uinkaret Paiute village at Big Spring on the southern slope of Mt. Logan, can be traced with some confidence, using Powell's recorded description of the trip.

The meeting with the Uinkaret and Shivwits bands was successful. Members of the second Powell expedition of 1871-72 further explored and mapped the region and reported no trouble with the local Indians. Mormon pioneers began to enter the region at the same time to exploit the grass for their livestock and timber for buildings. Frank Dellenbaugh's account of the second Powell expedition's journey to the area in March of 1872 mentions the presence of Whitmore, a rancher. Several more ranchers were to enter the area during that decade.

The timber resources of the Uinkaret mountains were of great importance to the Mormon pioneers of Utah's "Dixie." In 1874, the Church of Jesus Christ of Latter Day Saints established a sawmill at the base of Mt. Trumbull. Most of the timbers produced there were destined for the construction of the St. George Temple. The timbers were loaded onto wagons pulled by oxen and hauled the eighty-odd miles to St. George over the Temple Trail, a trip that took several weeks to complete.

This sawmill operation was the largest ever in the Mt. Trumbull area. Water was sluiced down a flume from Nixon Spring to large steam boilers to generate power for the mills. A shed shielded the mill from the elements and large pits were dug to receive the sawdust. In 1876, James W. Nixon was called to take charge of the sawmill. In addition to lumbering activities, he and others established cattle herds in the area. A small village grew up around the Church sawmill. It included a commissary, boarding house and rooming house for workers.

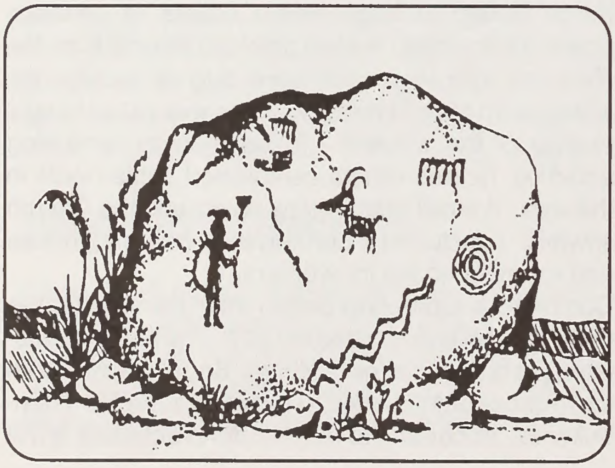
Commercial lumbering began after the temple was completed and dedicated in 1877. The church transferred its timber claims to Nixon. Soon, several more sawmill operations were to move into the Mt. Trumbull area. According to rancher John Schmutz, a mill was set up around 1890 by the Blake brothers north of the summit of Mt. Logan. Frank Petty established a sawmill south of Mt. Trumbull soon after. This mill was dismantled later and moved south by John and Alfred Stout, who bought out Petty.

For years the orders for saw lumber continued to stream in from southwestern Utah communities. As the local timber resources began to decline, sawmill operators were forced to move their operations with increasing frequency. The advent of the dry farming experiment in the 1920s no doubt provided a new temporary demand for lumber. However, the heyday of the sawmills at Mt. Trumbull was approaching an end. The expansion of lumbering activity on the Kaibab Plateau and the construction of a highway far north of Mt. Trumbull, made timber harvesting there increasingly impractical. Sawmill operations ceased shortly before World War II.

Man's activities slowly changed in the Uinkaret Mountains area following the great timber harvests. Livestock grazing remained the predominant activity with sporadic timber sales into the 1960s. Recreation really began to emerge as a more significant activity in the 1950s. Deer hunting, undeveloped camping, sight-seeing and gathering woodland products seemed to be the primary recreation activities of visitors.

With the designation of MTW and MLW came acknowledgment that portions of the Uinkaret Mountains possessed wilderness values. These values are characterized by areas of essentially natural landscapes where visitors have superior opportunities for solitary experiences or for a variety of primitive and unconfined types of recreation. Wilderness values include ecological, geological or other features of scientific, educational, scenic or historic value.

(In memory of Jennifer Jack, Archeologist, who contributed greatly to writing this section of the plan and who passed away on January 26, 1988.)



Management History

For nearly 50 years, the U.S. Forest Service managed 17,000 acres in the Mt. Trumbull-Mt. Logan area as part of a detached unit of the Kaibab National Forest (previously a unit of the Dixie National Forest). Much of what is now Mt. Trumbull Wilderness (MTW) and Mt. Logan Wilderness (MLW) were part of that unit which was primarily managed for small timber sales, wildlife and undeveloped recreation. The Forest Service, as part of their management effort in the area, constructed the Nixon Spring Administrative Site just across the road from what is now MTW. Most of the forest boundary was cleared of vegetation for a width of 20 feet for a boundary fence. Portions of these fences are still in use today as pasture or allotment divisions; however much of the fence clearing has revegetated significantly.

In 1974, Public Land Order 5413 was signed revoking the forest withdrawal--tranferring the area to BLM administration. The revocation was intended to improve the efficiency of administering the area. Soon after acquiring the detached forest unit in 1974, BLM let contracts in the area for tree thinning on the sloping summit of Mt. Logan, an archeological survey in the Mt. Trumbull area by the Museum of Northern Arizona, and a soil survey by the Soil Conservation Service in the Trumbull area.

Planning documents were amended shortly after BLM acquired management responsibility for the unit. The Shivwits and Vermillion Management Framework Plans provided general guidance and allocations for the more detailed activity plans that would follow. The Mt. Trumbull Recreation Management Plan followed in 1976, specifying objectives and actions to be taken in the area to protect, manage or promote the various recognized values of the area. The Mt. Trumbull Habitat Management Plan, describing management of wildlife and its habitat, was completed in 1977, to be followed by the Mt. Logan Fire Management Plan which addressed the artificial fuel buildup caused by the 1976 tree thinning and the full suppression policy on all fires. Finally, allotment management plans for each of the three allotments within the wildernesses were completed between 1980 and 1985.

The MTW and MLW were incorporated into the National Wilderness Preservation System on August 28, 1984, by the Arizona Wilderness Act of 1984 (Public Law 98-406) after almost six years of inventory and study. The Act designated as wilderness some 40 areas in Arizona to be administered by the U.S. Forest Service or the Bureau of Land Management (BLM) under the authority and provision of the Wilderness Act of 1964. Of the 40 areas set aside, nine are north of the Colorado River on what is known as the Arizona Strip. The BLM and Forest Service jointly manage one of these nine areas; MTW, MLW and five other areas are managed solely by BLM and one area is managed by the Forest Service.

On August 28, 1984, the Mt. Trumbull and Mt. Logan Wildernesses were closed to all forms of mineral entry and appropriation under the General Mining Laws and Leasing Acts. There are presently no known claim locations, no active leases and no history of mining or prospecting in either wilderness. The closest claim location (approximately 2.25 miles due east of the Mt. Trumbull Wilderness, adjacent to National Park Service lands) has had some exploratory drilling in the recent past. The majority of the Uinkaret Mountains area outside the wildernesses is open to mineral location and leasing (except where adjacent to National Park Service lands).

Since wilderness designation, these areas have been managed primarily to maintain and protect the environmental conditions that existed at that time. Along with the wilderness designation comes an automatic Visual Resource Management (VRM) class I rating. Class I VRM equates to a natural ecological landscape essentially free from man-induced contrast. At the same time, other predesignation resource uses and programs have been managed with guidance from the BLM Manual Section 8560. This plan will provide more specific guidance and direction to achieve and/or maintain desired wilderness conditions.

Prior to August of 1984, BLM access to both areas was by ground vehicles on existing roadways or by helicopter in roadless areas. With the designation of wilderness in 1984, BLM use of motor vehicles and motorized equipment was virtually curtailed. District policy now requires a formal request by employees to the district manager for permission to use such equipment for administrative purposes. The procedure for authorization requires documenting the date proposed for equipment use, the type of equipment proposed for use, the purpose of the use and justification of the proposed use. The procedure includes a thorough analysis to consider the need, as well as possible alternative methods and the reasons they cannot be employed.

It is the district's intent to minimize BLM vehicle use to the maximum extent feasible. There are no current plans to use motorized vehicles for administrative purposes other than in emergency fire suppression.

Location

Just north of the Colorado River on the periphery of the Grand Canyon, MTW and MLW are in the midst of the Uinkaret Mountains which rest atop the southern end of the Uinkaret Plateau (part of the Colorado Plateau Physiographic Province in Mohave County, Arizona). The two areas, four miles apart, are completely within Townships 33,34,35 North, Ranges 7,8,9 West, Gila and Salt River Meridian.

Table 1 shows the supply and proximity of statutory wilderness acreage available for primitive recreation opportunities within a 100-mile radius of the MTW and MLW area--roughly 20,000,000 acres. Table 2 shows that close to 2,000,000 acres of federal lands are either being studied or are already administratively endorsed for inclusion in the wilderness system within the same region. For example, contiguous to the southern and eastern boundaries of MLW are some 742,925 acres of the administratively endorsed wilderness in Lake Mead National Recreation Area and Grand Canyon National Park.

Table 2 also depicts the estimated supply of non-wilderness acreage available for dispersed recreation opportunities on federal lands within the same 100 mile radius. The extremely large supply of essentially undeveloped lands combined with fairly extensive road networks and low visitor use levels creates excellent opportunities for dispersed recreation within the region.

Boundaries, Ownership and Access

The Arizona Wilderness Act of 1984 designated as wilderness and, therefore, components of the National Wilderness Preservation System, "...certain lands in the Arizona Strip District...Arizona, which comprise approximately 7,900 acres...known as the Mount Trumbull Wilderness" and "...certain lands...which comprise approximately 14,600 acres...known as the Mount Logan Wilderness." Section 303 of the Arizona Act further requires a map and legal description for each wilderness to be filed by the Secretary of the Interior with the Committee on Energy and Natural Resources of the U.S. Senate and the Committee on Interior and Insular Affairs of the House of Representatives.

Concurrent with the wilderness management planning effort, boundaries of the MTW and MLW will be computer digitized and described in a narrative. The official boundary packages containing maps and descriptions will be completed and submitted to the Washington Office simultaneously with the final wilderness management plan.

The boundary of MTW parallels roads at either 30- or 100-foot horizontal offsets from the roads' centerlines for about a third of its length. Other features making up the boundary include drainage centerlines, property lines and the edges of several vegetative treatments to the east. The MLW boundary lies on contour lines for nearly half of its length. Other features making up the boundary include 30-foot horizontal offsets from two roads, section lines, drainage centerlines, National Park Service boundaries, and point to point. Boundary locations where visitor access has traditionally occurred have been posted with standard, BLM wilderness boundary signs.

Of the 22,500 acres that comprise MTW and MLW, 40 acres in the northeast portion of MLW are privately owned and are used in association with the livestock grazing permit for most of the Mt. Logan area. On April 2, 1985, about seven months after the passage of the Arizona Wilderness Act, approximately 320 acres in MTW and 830 acres in MLW were reconveyed by the State of Arizona to the United States of America in exchange for other public lands within the state. Apart from the private inholding in MLW, no other inholdings exist in the wildernesses. One 160-acre parcel of private land is contiguous to part of the northern MTW boundary (see Map A). Much of the eastern boundary of MLW is contiguous to Grand Canyon National Park while the extreme southern boundary lies next to Lake Mead National Recreation Area.

Vehicular access to the MTW/MLW area is possible only from the north because the Grand Canyon is an effective barrier to movement from the south. No roads cross the canyon between Hoover Dam and Navajo Bridge near Lees Ferry, Arizona. From St. George, Utah, MTW and MLW are reached by driving southerly some 70 miles using the Quail Hill, Wolfhole, Main Street, and Mt. Trumbull Roads. The area can also be reached by driving south from Arizona Highway 389 near Colorado City, Arizona, about 50 miles using the Clayhole, Black Canyon, and Craig Ranch Roads. Finally, the most common access to the area is from AZ Highway 389, about seven miles east of Pipe Spring National Monument. The Mt. Trumbull Road originates here and goes southwesterly some 50 miles to the MTW/MLW area.

All roads mentioned above, with the exception of AZ Highway 389, are improved dirt, maintained at least once each year. Generally, driving conditions are fair for passenger cars and good for pickup trucks and off-highway type vehicles. Inclement weather in spring and summer as well as winter snows can make access difficult to impossible for all types of vehicles. Access along existing routes is generally unimpeded legally. In creating MLW, Congress chose to include a 60-foot corridor along a 4.4 mile portion of the Slide Mountain-Hell's Hollow Road. This corridor is open to public vehicle use, providing direct access to a portion of the wilderness interior.

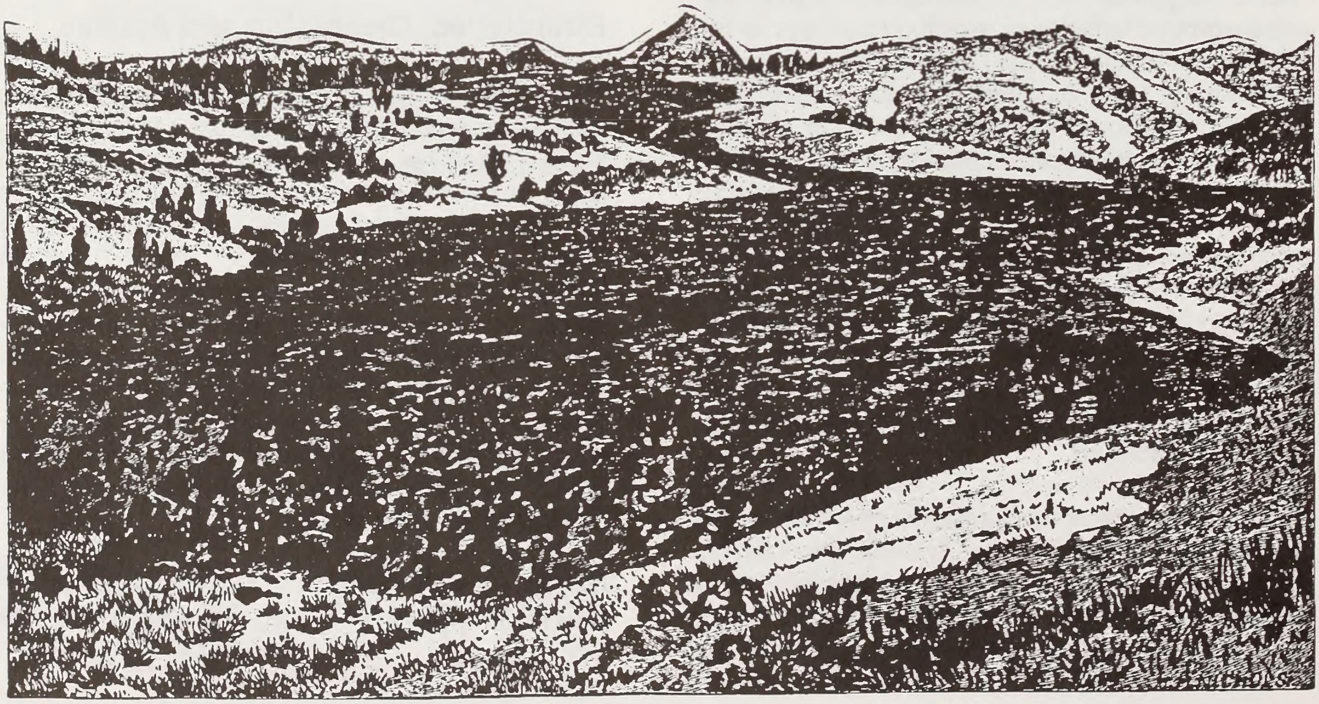


TABLE 1
Statutory Wilderness within 100 miles of MTW and MLW
Bureau of Land Management, Arizona Strip District

Wilderness	Year Designated	Distance	Direction	Acres	State	Agency
Kanab Creek	1984	25	ENE	77100	AZ	FS,BLM
Grand Wash Cliffs	1984	25	WNW	36300	AZ	BLM
Paiute	1984	36	NW	84700	AZ	BLM
Beaver Dam Mountains	1984	50	NW	19600	AZ,UT	BLM
Saddle Mountain	1984	55	E	40600	AZ	FS
Pine Valley Mountain	1984	60	NNW	50000	UT	FS
Paria Cyn.-Vermillion Cliffs	1984	65	ENE	112000	AZ,UT	BLM
Ashdown Gorge	1984	95	NNE	7000	UT	FS
Apache Creek	1984	100	SSE	5420	AZ	FS
Juniper Mesa	1984	100	SSE	7600	AZ	FS
Kendrick Mountain	1984	100	SE	6510	AZ	FS
TOTAL				446830		

Source: National Wilderness Preservation System Map, January, 1987, USGS, BLM, FWS, USFS, NPS

TABLE 2
Recreation Opportunities Within 100 Miles of MTW and MLW
Bureau of Land Management, Arizona Strip District

	Acres	Percent
Statutory Wilderness	500,000	2.5%
Potential Wilderness	2,000,000	10.0%
Non-wilderness, Dispersed Recreation	10,500,000	52.5%
Non-wilderness, Undispersed Recreation	1,000,000	5.0%
Private / State Lands	6,000,000	30.0%
TOTAL All Lands	20,000,000	100.0%

Source: National Wilderness Preservation System Map, January, 1987, USGS, BLM, FWS, USFS, NPS

PART II
GOALS OF WILDERNESS MANAGEMENT

The goals for the management of statutory wilderness on public lands come directly from the mandates and intents of the Wilderness Act of 1964. While the goals themselves are too general to provide specific levels of management conditions, their main purpose is to provide a direction in which to aim the overall management effort.

The first and dominant goal is to provide for the long-term protection and preservation of the areas' wilderness character under a principle of non-degradation. The areas' natural condition, opportunities for solitude, opportunities for primitive and unconfined types of recreation, and any ecological, geological, or other features of scientific, educational, scenic, or historical value present will be managed so that they will remain unimpaired.

The second goal is to manage the wilderness areas for the use and enjoyment of visitors in a manner that will leave the areas unimpaired for future use and enjoyment as wilderness. The wilderness resource will be dominant in all management decisions where a choice must be made between preservation of wilderness character and visitor use.

The third goal is to manage the areas using the minimum tool, equipment or structure necessary to successfully, safely and economically accomplish the objective. The chosen tool, equipment or structure should be the one that least degrades wilderness values temporarily or permanently. Management will seek to preserve spontaneity of use and as much freedom from regulation as possible.

The fourth goal is to manage non-conforming but accepted uses permitted by the Wilderness Act and subsequent laws in a manner that will prevent unnecessary or undue degradation of the areas' wilderness character. Nonconforming uses are the exception rather than the rule; therefore, emphasis is placed on maintaining wilderness character.

PART III
ORGANIZATION OF THE PLAN

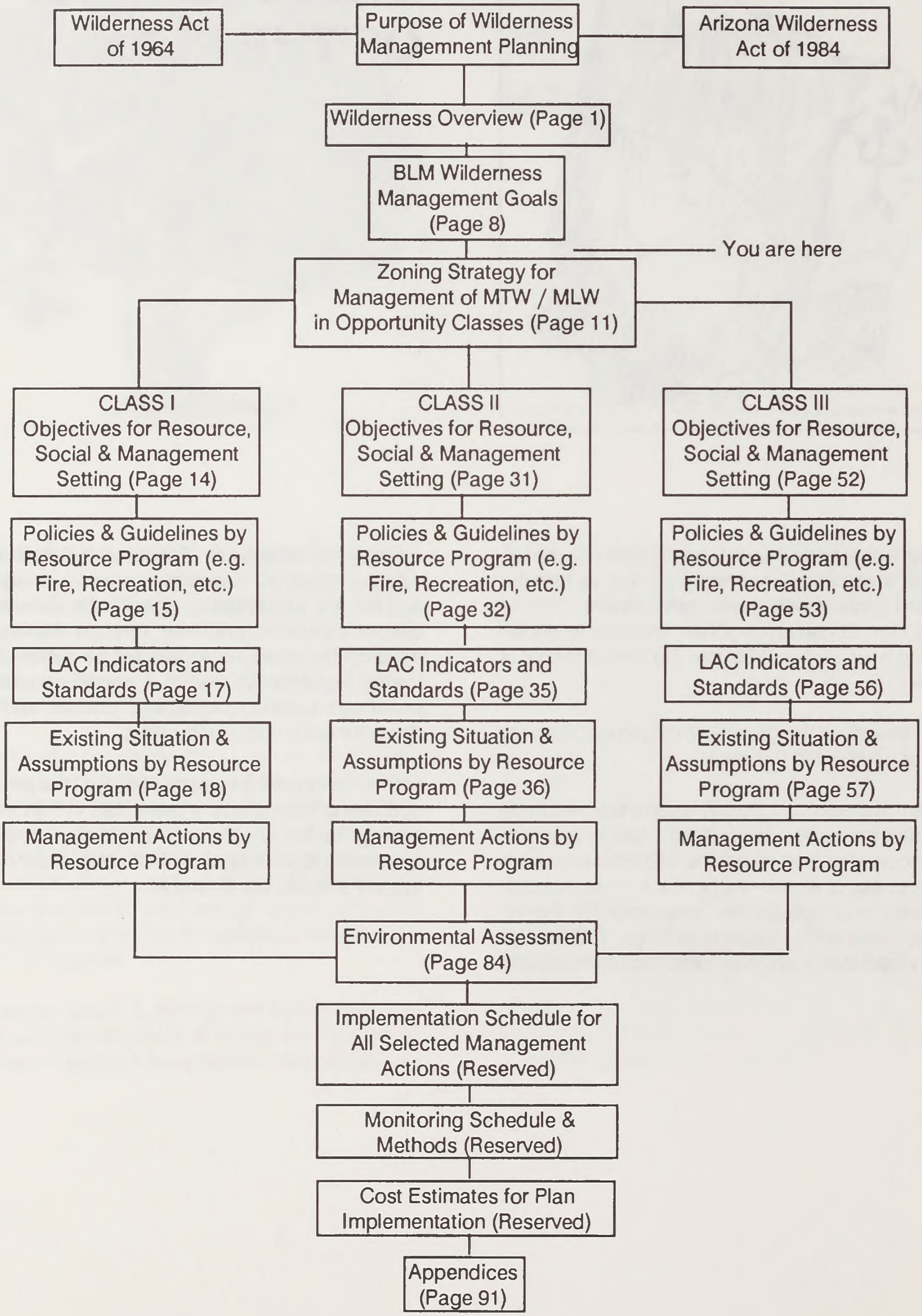
The preceding parts (I and II) briefly describe the wilderness areas and their history as well as the four standard goals of wilderness management. The following Plan Organization Chart will help in understanding how each part fits into the overall format of the plan.

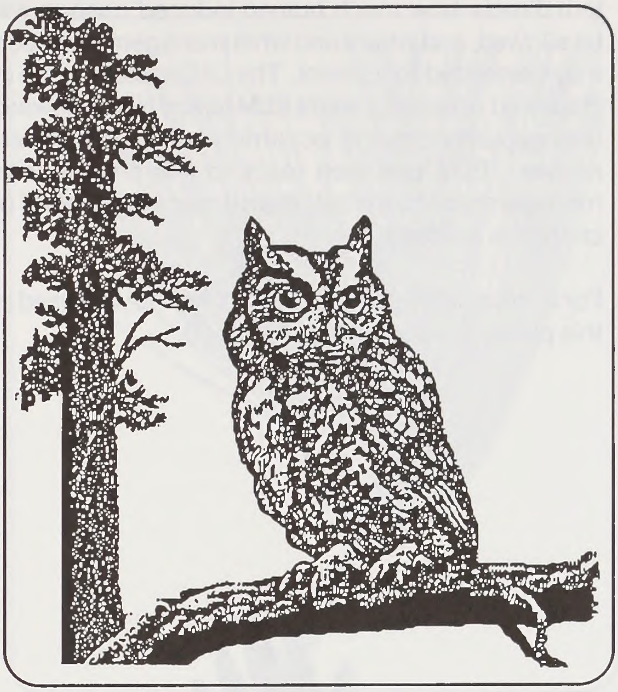
Part IV describes the general Management Strategy used for developing this plan.

Program Management, Part V, is separated into three opportunity classes. Each class represents a specific geographic area within the wildernesses and is written to stand alone. Within each class, specific objectives and policies are described for the resource, social and managerial settings. LAC indicators and standards are then described to refine and quantify the objectives. Following this section, the existing situation, assumptions and management actions are presented to specifically describe the current conditions and how, through management actions, the above objectives will be achieved. Following Opportunity Class III, comparison tables are presented showing objectives, policies and standards for each opportunity class.

An Environmental Assessment (EA) of the proposed action and alternatives is presented in Part VI. Following the EA are the Implementation Sequence, Monitoring Schedule, Cost Estimates and Appendices in Parts VII, VIII, IX and X.

PLAN ORGANIZATION CHART


Wilderness Act of 1964
Purpose of Wilderness Managemnent Planning
Arizona Wilderness Act of 1984
Wilderness Overview (Page 1)
BLM Wilderness Management Goals (Page 8)
You are here
Zoning Strategy for Management of MTW / MLW in Opportunity Classes (Page 11)
CLASS I Objectives for Resource, Social & Management Setting (Page 14)
CLASS II Objectives for Resource, Social & Management Setting (Page 31)
CLASS III Objectives for Resource, Social & Management Setting (Page 52)
Policies & Guidelines by Resource Program (e.g. Fire, Recreation, etc.) (Page 15)
Policies & Guidelines by Resource Program (e.g. Fire, Recreation, etc.) (Page 32)
Policies & Guidelines by Resource Program (e.g. Fire, Recreation, etc.) (Page 53)
LAC Indicators and Standards (Page 17)
LAC Indicators and Standards (Page 35)
LAC Indicators and Standards (Page 56)
Existing Situation & Assumptions by Resource Program (Page 18)
Existing Situation & Assumptions by Resource Program (Page 36)
Existing Situation & Assumptions by Resource Program (Page 57)
Management Actions by Resource Program
Management Actions by Resource Program
Management Actions by Resource Program
Environmental Assessment (Page 84)
Implementation Schedule for All Selected Management Actions (Reserved)
Monitoring Schedule & Methods (Reserved)
Cost Estimates for Plan Implementation (Reserved)
Appendices (Page 91)



PART IV MANAGEMENT STRATEGY

A key premise in BLM's management strategy is the recognition that all wilderness areas are not the same. Further, within any given wilderness, not all areas provide the same visitor experience or require the same BLM management attention. There can, in fact, be a variety of wilderness settings present, based on physical layout, visitor use and patterns of use, degree of past human influences and management issues. Each recognized setting should then require a different management emphasis to preserve or enhance the particular values of that area within the umbrella of guidance provided by the Wilderness Act of 1964.

Within the Mt. Trumbull-Mt. Logan Wildernesses, three of these settings, referred to as Opportunity Classes, are recognized (see Table 3 for acreages and Map A for location). These are not rigid, on-the-ground allocations, nor do they originate solely from specific conditions in the areas. Rather, they are theoretical descriptions of the range of resource, social and managerial conditions that BLM intends to maintain or restore in these wildernesses.

Each opportunity class has its own narrative description of the resource, social and managerial conditions that are considered appropriate and acceptable for management as wilderness. These descriptions are, in fact, the objectives which BLM will seek to achieve, maintain or enhance.

Table 3
Opportunity Class Acreages
Bureau of Land Management
Arizona Strip District

	Class I	Class II	Class III	Total
Mt. Trumbull	1,890	4,683	1,280	7,853
Mt. Logan	3,530	9,053	2,025	14,608
Total	5,420	13,736	3,305	22,461

Opportunity Class I represents areas that are virtually untouched by man and where few visitors go. On the other end of the spectrum, Opportunity Class III represents areas where man's past influences on the land are still present and where the majority of visitor use occurs. Opportunity Class II represents pristine areas where future primitive recreation will be encouraged.

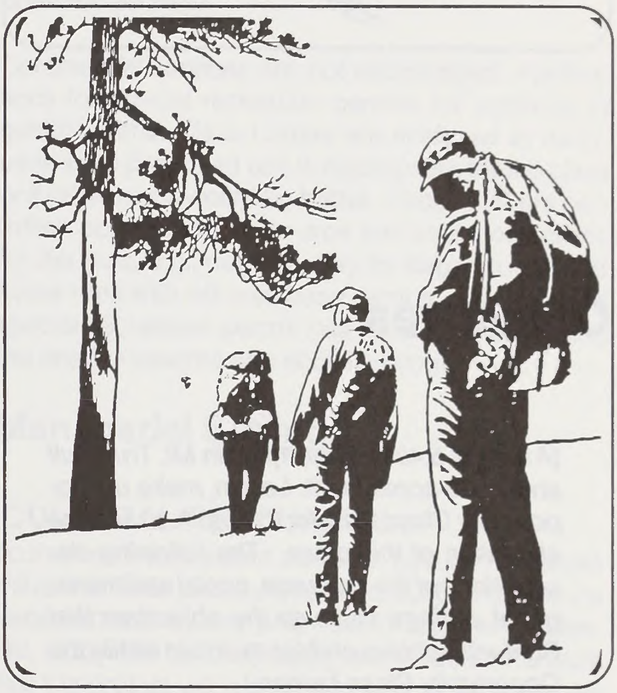
The strategy for establishing these opportunity classes or zones involves the Limits of Acceptable Change (LAC) system. This nine-step process, revised somewhat and coupled with the Bureau's nine-step Wilderness Management Planning process, establishes the acceptable and appropriate wilderness resource and social conditions for the three opportunity classes, and also the appropriate managerial presence required to maintain or enhance those conditions. Normally the LAC system focuses on desired conditions in a recreation setting; however, this planning effort broadens the scope of LAC to include and integrate the variety of values and uses that constitute the full spectrum of wilderness resource management.

By focusing on the desired conditions, the LAC system directs how much human-induced change will be allowed, and where and what management action may be needed for control. The LAC system, once in place and operating, alerts BLM to any trends toward unacceptable change occurring within the wildernesses. BLM can then react to this change with management actions before an unacceptable level of change is reached.

For a more detailed description of how LAC is used in this planning effort, see Appendix B.

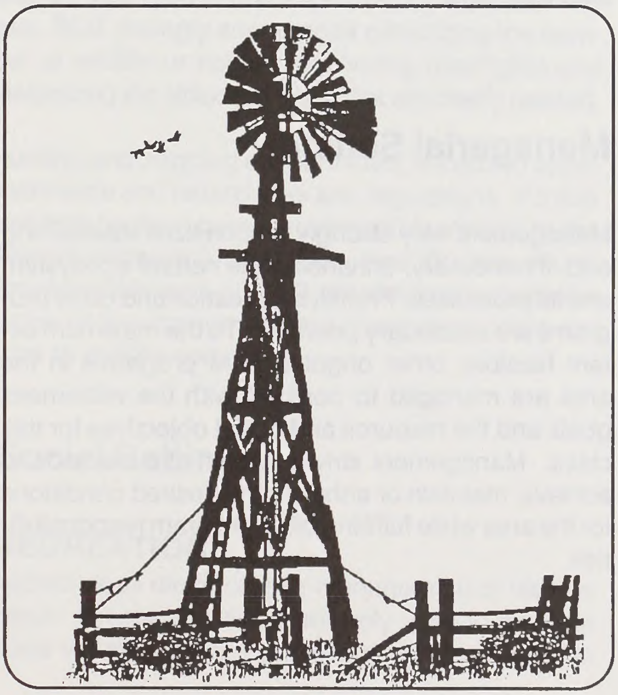
PART V PROGRAM MANAGEMENT

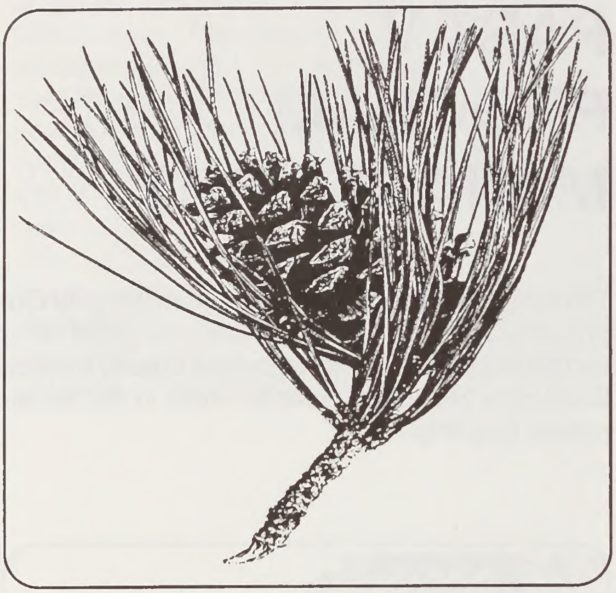
The following program management sections for Opportunity Classes I, II and III are written to stand alone and do not involve cross-references among classes. Each class represents specific areas in the wildernesses (see Map A).



In making each class independent of the others, there is some repetition of policies and actions that are common to all classes. This format enables the reader to understand the overall program management needs required for specific areas.

The three tables after Opportunity Class III summarize the differences among Opportunity Class I, II and III for objectives, policies and standards.





OPPORTUNITY CLASS I

Objectives

(A total of 5,420 acres, 1,890 in Mt. Trumbull and 3,530 acres in Mt. Logan, make up Opportunity Class I. Refer to Map A to see the allocation of this class. The following descriptions of the resource, social and managerial settings serve as the objectives that BLM will achieve and/or maintain within the Opportunity Class I areas.)

Resource Setting:

Opportunity Class I, the most pristine of the three classes, is essentially an unmodified natural environment. The soil, water, vegetation and wildlife components of the ecosystem within the class are stable and natural processes operate essentially free of man-induced controls. Additionally, these processes are not noticeably affected by the presence or actions of any users. Visitor impacts are rare, typically consisting of minor temporary disturbance of soils and vegetation in camp areas and along popular hiking routes. Disturbances are visually subtle and therefore unnoticeable--typically recovering on an annual basis. Impacts from other resource users are rare to nonexistent, temporary and unnoticeable.

Social Setting:

This area provides visitors outstanding opportunities for solitude and isolation from other users. Encounters with other visitors or other resource users are rare; whether in camp or traveling. Visitors may travel unregulated and interact with the natural environment. Opportunities to utilize primitive outdoor skills and experience challenge, self-reliance and risk are also very high.

Managerial Setting:

Management very strongly emphasizes maintaining and, if necessary, enhancing the natural ecosystem and its processes. Primitive recreation and other programs are secondary priorities. To the maximum extent feasible, other ongoing BLM programs in the area are managed to conform with the wilderness goals and the resource and social objectives for this class. Management strives use off-site methods to achieve, maintain or enhance the desired conditions for the area while fulfilling other program responsibilities.

Specific Policies, Guidelines & Standards

(See Table 5 for a comparison of these policies and guidelines with those of Opportunity Classes II and III)

Resource Setting:

WILDLIFE

Wildlife is an important component of the Class I areas. Wildlife managers will endeavor to achieve their goals and objectives primarily through actions taking place outside the Class I areas--promoting the continuation of natural processes. To the maximum extent possible, wildlife populations, including predatory species, within the area are allowed to interact naturally.

Transplants, reintroductions and habitat developments may be authorized when 1) the need to do so within Class I is shown to be compatible with the wilderness objectives for this class and 2) such actions are achieved using the minimum tool. Since the resource objectives for the Class I areas are conducive to natural protection of threatened and endangered species of wildlife, management of such species will be the minimum necessary to comply with the Endangered Species Act.

Wildlife management activities that are necessary within the Class I areas will be carried out using the minimum tool. Nonmotorized techniques are considered best to meet the objectives for the Class I areas. BLM strongly encourages minimizing the number of wildlife or habitat monitoring overflights and maximizing the altitude of those that are clearly needed.

Hunting and trapping are permitted, subject to applicable state and federal laws and regulations. If these activities begin to cause unacceptable change to the desired wilderness conditions, coordination efforts between BLM and AG&FD will determine both the cause of the change and the most appropriate actions to restore conditions.

Social Setting:

RECREATION

Seldom does direct on-site management of visitors occur. On-site strategies are only used in extreme cases where resource protection demonstrates an urgent need for such methods. Any rules and regulations pertaining to visitor behavior are communicated outside the area. When less restrictive measures have failed to achieve desired resource and social objectives, formal regulations, restrictions, orders and/or permits are considered.

Visitor contact with administrative personnel is rare, usually in emergency situations or by invitation, and is the minimum necessary to address visitor needs.

Informal, off-site user awareness methods are the primary thrust of visitor use management. Formal methods are employed when informal methods fail to achieve desired results. Signs are for resource protection only and temporary in nature. The area has no constructed trails.

Commercial services are not encouraged. Applications for special recreation permits for outfitting or guiding within Class I areas are analyzed to determine if the proposed use is appropriate for the class or if other lands would be better. Those that are permitted conform with resource and social objectives for the area, e.g., day-use only for large groups and horse trips with off-area base camps. The required special recreation permit has rules for maintaining the area's resource and social settings.

Managerial Setting:

CULTURAL RESOURCES

To the maximum extent possible, cultural resources will remain in an undisturbed state, subject only to the forces of nature. Any proposal for legitimate scientific study will be thoroughly scrutinized to ensure that the project will not conflict with or compromise the resource and social settings for the Class I areas, and that the proposal is necessary to preserve significant cultural resource information. Surface-disturbing cultural resource management activities will be discouraged if data can be obtained in other areas. Any undertaking, including data recovery or stabilization, which may affect a cultural property meeting the criteria for inclusion in the National Register of Historic Places (NRHP), requires compliance with section 106 of the National Historic Preservation Act and 36 CFR 800.

No sites will be allocated to public use. Field inventories and monitoring of known sites within the area are third priority behind Opportunity Classes II and III.

Known cultural resources are managed and accorded protection under the provisions of the Antiquities Act of 1906, the Historic Sites Act of 1935, Executive Order 11593, the National Historic Preservation Act of 1966, as amended, the Archeological Resources Protection Act of 1979 and the Federal Land Policy and Management Act of 1976--with full consideration given to the resource and social objectives of the area. Structures having historical significance will remain in the area.

FIRE

Management of fire emphasizes the role of natural fire to control unnatural fuel buildups and allow natural processes to operate without catastrophic events. The Fire Management Plan (Appendix A) specifically addresses how this is achieved. All fires that threaten human life or property within the wilderness or life, property or resources outside the wilderness are controlled.

Fire suppression actions are delayed until observation and assessment by the fire management officer (FMO) and resource advisor determine the desired course of action. Suppression actions can range from observation to containment for natural ignitions, with human-caused ignitions restricted to control. When containment action is needed, techniques are used that result in the least possible surface and vegetative disturbance.

Following any fire greater than five acres, rehabilitation measures (i.e., reseeding of fire lines, temporary change in grazing system) will be considered so as to protect sensitive soils. Natural fires will be allowed to burn if they are within prescription; no prescribed fires ignited by BLM personnel will be considered in this class.

EMERGENCY SERVICES

Search and rescue responsibilities and procedures are clarified and coordinated with Mohave County authorities and the National Park Service, Grand Canyon National Park, to provide timely and appropriate response where life-threatening situations occur or visitor safety is needed. All permanent and seasonal BLM personnel who work in the Mt. Trumbull-Mt. Logan area are to be familiar with any procedures prescribed in a search and rescue plan.

A plan establishes strict criteria under which helicopter use will be allowed for life-threatening situations. Helispots are not pre-constructed but are located and cleared when they are needed. Natural clearings conducive to safe helicopter landings are to be identified in a plan.

LIVESTOCK GRAZING

Livestock grazing numbers are generally managed at the level of active preference in place at the time of wilderness designation. Any increases and/or decreases to these numbers depend on guidance found in AZ-IM-87-55 and WO-IM-87-142. Class of livestock changes (e.g., from cattle to horses) are considered where adverse affects or changes to ecological objectives would not result.

Access to and maintenance of any existing livestock improvements are nonmotorized. A list of all existing range developments within the area is to be compiled, the permittee(s) notified of the nonmotorized maintenance requirement, and the maintenance decision made a condition of the AMP and/or the grazing permit.

Management does not consider new structures or prescribed burning as methods to achieve program objectives. As any existing structures require major reconstruction or costly maintenance, strong consideration is given to relocating the development outside the wilderness.

INSECTS AND DISEASE

Treatments for control are considered only when T&E species are threatened within the wilderness or when valuable resources outside wilderness are threatened by outbreaks from inside the area. Treatments are also considered where the source of the outbreak can be traced to human causes or influences.

Control measures maximize the use of natural, biological techniques (e.g., introduction of sterile specimens into the population to prevent regeneration) on specific problem sites. Programs developed to control insects and/or disease must be approved prior to implementation by the Director of BLM.

ADMINISTRATION

Proposals for the scientific study of resources are considered, provided the studies depend on a wilderness setting, the studies provide information that contributes to better management of wilderness, and the study methods and timing are compatible with resource and social standards.

No communication facilities are to be located in the area. No new administrative or other-than-administrative structures are provided or permitted. Strong consideration is given to removing any existing administrative structures from the area to enhance naturalness. As other-than-administrative structures require major reconstruction or costly maintenance, strong consideration is given to relocating the development outside the wilderness, so long as the intended purpose can continue to be served in the new location.

Class I Indicators and Standards

(See Table 6 for comparison of these Standards with those of Classes II and III)

FACTOR	*INDICATOR*	*STANDARD*
RESOURCE:		
A. Campsite Conditions	1. Number of campsites per 500-acre area	No more than 1 site
	2. Number of impacted sites/500-acre area exceeding a given impact rating	Highly impacted (0) Moderately impacted (0) Minimally impacted (1)
B. Vegetative Conditions	1. Overall ecological condition of potential natural plant communities *	Not below excellent
	2. Percent utilization of key forage **	No more than 15%
C. Man's Influence	1. Developments per 500-acre area	No more than 1
SOCIAL:		
D. Solitude (as affected recreation users)	1. Number of other recreation parties encountered per day while traveling	80% probability of no more than 1 encounter
	2. Number of other parties camped within sight/sound per day	90% probability of no encounters
E. Solitude (as affected by other users)	1. Number of encounters per day with non-recreational parties	80% probability of no encounters

* Ecological condition is not a true "indicator;" it is more of a rating system or a "factor." We are using ecological condition and the standards as guidelines to direct field evaluations and management decisions. As we refine our monitoring process, we will identify key vegetative species and standards which will better reflect natural, ecological plant composition.

** Current livestock utilization levels are generally below the standard mentioned here. If the standard for utilization is approached or exceeded, a more in-depth evaluation of the cause of the increased utilization will be triggered. Adjustments to livestock numbers will not be based on this standard.

Existing Situation, Assumptions, and Management Actions

Resource Setting Components:

VEGETATION

Due to the isolated locations and the topograghic position of the Class I areas on Mt. Trumbull and Mt. Logan, the vegetative composition is in a condition essentially unmodified by human activities. The pine forests atop the summit areas exemplify the natural forest character which once covered much of the area between Mt. Logan and Mt. Trumbull prior to the large timber harvests of the late 1800s. There are few and very insignificant exceptions to this almost totally natural state within these two wilderness Class I areas.

Within the Class I area atop the summit of Mt. Trumbull, several small trees were cut in the 1950s by United States Geologic Survey (USGS) crews who were establishing vertical and horizontal survey control. The trees impeded their line-of-sight to the east. The only other exceptions to this near-natural condition are occasional reminders of past and present fire suppression activities, usually in the form of one or several trees cut down and remnants of small, hand-cut fire lines.

The overwhelming majority of the Trumbull Class I area is an uneven age ponderosa pine forest (1,536 acres). Included are smaller numbers of pinyon, juniper, oak, locust as well as shrubs, forbs and grasses. Below the basalt rim on the western edge of the summit, mountain shrub type predominates (197 acres), composed primarily of oak and locust with occasional pockets of aspen on the north side. Three small openings in the forest cover atop the summit (62 acres) are covered primarily with sagebrush. Finally, several areas (95 acres) below the basalt rim on the south side contain almost pure stands of pinyon pine.

Within the Class I area of Mt. Logan Wilderness, there are virtually no disturbances to the natural, pristine states of any of the vegetative types located there. The construction of a portion of the National Park Boundary fence resulted in minor vegetative disturbance along its route (see Livestock Grazing). Plant composition has also been altered in a small insignficant area near the Paws Pocket Wildlife Catchment due to a past land treatment effort. The vast majority of the vegetation in this Class I area is represented by the pinyon-juniper woodland type (3,028 acres) and is undisturbed by human activity. Within the large area of woodland are two isolated areas dominated by sagebrush (40 acres).

On the highest elevations in the eastern-most portion of Mt. Logan Wilderness are found small, pure stands of ponderosa pine (235 acres), with small, isolated patches of mountain shrub associations (primarily oak, locust and manzanita (209 acres)). Approximately 18 acres of exposed, barren volcanic flows are found-- mostly within the conifer areas with associated, but separate, flows in the nearby woodland area.

There are no known Threatened or Endangered plant species or candidate species documented in either area.

Because visitation is very low in the Class I areas, natural plant succession interruptions by visitors are very minimal and natural recovery occurs well within one growing season. Since there are no established campsites currently known in the areas, damage to trees, shrubs and ground cover is virtually nonexistent.

Assumptions

* The Class I area of Mt. Trumbull is close enough to a natural condition for a ponderosa pine forest ecosystem in its diversity so it can serve as a baseline for other opportunity classes in Mt. Logan Wilderness having similar characteristics of soil, slope, precipitation, and vegetation.

* The only natural interruptions to plant succession that may be expected during the life of the plan would originate from processes of fire, insects or disease

* The possible evolution of popular campsites in the future could affect natural succession on a localized basis

* Administrative response to natural phenomenon such as insects (e.g. control of insects where valuable resources outside are threatened from an infestation within wilderness) could cause an unnatural interruption to the natural succession within the Class I areas

Management Actions

* Remove the evidence of past USGS activity at Mt. Trumbull summit by cutting stumps to ground level and burning and/or hauling out remaining refuse by nonmotorized means.

* Maintain the apparent excellent ecological condition and fire regime of the Mt. Trumbull Class I area by developing a fire plan with a prescription which allows natural ignitions to be influenced by naturally occurring conditions. Study and document plant compositions typical of this area to provide baseline data for use in rehabilitating ecologically poor or fair sites having similar physical characteristics.

* Allow the altered vegetative cover along the Grand Canyon National Park boundary fence to continue to revegetate naturally without rehabilitation assistance from BLM.

* Monitor the indicators of campsite condition in Class I areas each fall following the high-use season. Inventory all campsites using the impact rating worksheet and compare the results against the Class I standards. Clean up or completely remove campsites when the standards are exceeded. Evaluate all campsites for their ability to rehabilitate naturally.

* Reseed Paws Pocket area with a mix of native species. Solicit volunteers and carry out operations using non-motorized means.

SOIL, WATER, AIR

Soil

The predominant soil type (1110 acres) in the Mt. Trumbull Class I area is Siesta very cobbly clay loam on 1-10% slopes. It is a deep, well drained soil with a slight to moderate erosion hazard. Another 587 acres of this same soil type are on the 15-45% slopes that lie below the basalt caprock of the mountain on the western end.

The second soil type in this Class I area is Wukoki Variant-Lomaki Cold Variant complex on 193 acres encompassing the small cinder cone on the south rim of the basalt ledge. On 15-60% slopes, these deep soils are extremely gravelly loam overlaying cinders below with a moderate to high erosion hazard.

While no recent soil survey information is currently available, much of Mt. Logan I area is very similar in nature to the soils mentioned above.

Currently, there is almost no soil instability within the majority of the Class I areas. However, a small portion in the Mt. Logan Class I area near Paws Pocket Wildlife Catchment is currently undergoing accelerated soil loss due to lack of ground cover from a land treatment (chaining) done prior to wilderness designation.

Water

No known perennial springs or seeps are within the Class I areas. Ephemeral water sources may appear during a period of greater precipitation or during spring thaw, however these sources are not consistent. A wildlife catchment (see Wildlife) on Mt. Trumbull is the only developed water source in the Class I areas.

Air

Currently, the air quality classification for these areas is Class II; allowing moderate deterioration associated with moderate, well-controlled industrial and population growth. The classification was established under the Clean Air Act (as amended 1977) for all BLM-administered lands.

Within three miles of Mt. Trumbull and contiguous to the Mt. Logan Opportunity Class I area lies Grand Canyon National Park which is classified as Class I airshed. The quality of the airshed in the Opportunity Class I areas is currently within the baseline air standards for the park.

Specifically, air quality is good to excellent with the lowest levels of Total Suspended Particulate (TSP) in winter and the highest levels in summer. On an area-specific basis, potential sources of TSP concentration are wildland fires, urban pollutants from large cities to the south and west, and dust from higher traffic volumes on the Mt. Trumbull road during higher use periods.

BLM does not have the prerogative to change the air quality classification; however, the State of Arizona may reclassify, following the completion of study required by the Clean Air Act Amendments of 1977. BLM currently manages air quality in the Mt. Trumbull-Mt. Logan region to the same standards as those of Grand Canyon National Park.

The Salt River Project, a large Arizona-based utility, currently is maintaining an automated camera on the southern rim of Mt. Trumbull, authorized prior to wilderness designation (see Administration). The purpose of the 35mm camera is to gather visibility data once a day in the direction of the San Francisco Peaks (Kachina Peaks) south of the Grand Canyon.

Winds in the Opportunity Class I areas are most commonly from the south and southwest, generally ranging from 5 to 10 mph. Higher winds generally accompany regional frontal systems passing through the area and summer thunderstorms. Winds from the north can occur in the fall and winter.

Precipitation in the Class I area atop Mt. Trumbull is perhaps the highest in the Arizona Strip District. Rain gauge information accumulated in the Mt. Trumbull area since 1977 shows that winter and summer are typically the highest precipitation periods; fall and spring averaging the lower amounts. Overall, the average precipitation in these higher elevation areas is extrapolated as ranging from 19 to 21 inches per year.

Assumptions

* Soil conditions are generally expected to remain stable in these areas throughout the life of the plan as long as the vegetative communities remain unchanged

* There are no anticipated changes in air quality throughout the life of this plan to warrant a reclassification

* Unless and until the State of Arizona changes the classification, wilderness lands in Opportunity Class I areas will continue to be managed for Class II or better air quality

* Greater traffic volume in the future along the Mt. Trumbull road during drier soil conditions will not significantly affect the air quality within the Opportunity Class I areas

* Soil loss will continue to occur in the Paws Pocket Wildlife Catchment area

Management Actions

* Reduce runoff and increase infiltration by reseeding the Paws Pocket area with a mix of native grass species. Solicit volunteers and carry out operations using non-motorized means.

WILDLIFE

Wildlife species are natural components of the Mt. Trumbull and Mt. Logan Wildernesses. The wide variety of permanent or seasonal species in these areas contributes to the overall value of these wilderness areas to both the recreationist and the scientist.

The Mt. Trumbull-Mt. Logan Wilderness Management Plan will briefly discuss wildlife, but only as its management has a potential to diverge from the wilderness objectives.

Wildlife management typically involves two elements, species management and habitat management. The principal management responsibility of the BLM in relation to wildlife is habitat. The Arizona Game and Fish Department (AG&FD), and the U.S. Fish and Wildlife Service (FWS) primarily have the responsibilities of species management; however, BLM and FWS are responsible for management of Threatened or Endangered wildlife species.

The Habitat Management Plan (HMP) is the primary management tool for establishing a comprehensive wildlife program for the Uinkaret Mountains. The Mt. Trumbull HMP was written in 1976 and for the most part has been implemented. In this HMP is a comprehensive list of over 200 species of fauna which occur in the Uinkaret Mountains and portions of the Kanab Plateau. It also includes a thorough review of the habitat and wildlife species interrelationships. The age of the HMP and the fact that wilderness objectives and mandates are now part of the existing situation point to a need for revision of the HMP to better reflect the current and future management objectives for wildlife in wilderness.

BLM and AG&FD work closely in managing both the habitat and the species in the Uinkaret Mountains area under the existing Mt. Trumbull HMP. Since the HMP covers a much larger area, intensive management objectives have not been specifically directed toward these small wilderness areas.

In the Class I areas of Mt. Trumbull and Mt. Logan poaching of wildlife species and conflicts with predatory wildlife species are not significant problems. No feral animals have been documented in these areas. Within the relatively small Class I areas, most wildlife species are believed to be transient; generally occupying other adjoining areas as part of their total home range.

Twenty years ago the Mt. Trumbull region was famous for its mule deer herd and its production of record-book bucks. Several of the largest deer ever shot by hunters in Arizona came from here. However, in recent years the deer numbers have declined dramatically and today few deer can be found in this area. There is not concensus as to the reasons for this decline. Debates center around higher seral stages, increased water developments and predation. The AG&FD are interested in conducting future surveys to better understand current trends in the deer population.

Two non-native species which probably receive the most attention by hunters in the Mt. Trumbull and the Mt. Logan area are the Kaibab squirrel and the Merriam turkey. Both species are doing well and occupy most of the available Ponderosa pine habitat in the area.

Kaibab squirrels were transplanted into the Mt. Trumbull area from 1971 to 1975 to extend the range of the species (improving possibilities to remove them from protection under the Endangered Species Act and stabilize populations thoughout their range), to possibly open a hunting season and to protect the species from potentially being wiped out by disease. There are no known tagged squirrels. Due to the small number of Kaibab squirrels released their gene pool is considered restricted.

Turkeys were transplanted into the Ponderosa pine forests of Mt. Logan in 1961. Thirty seven birds comprised the initial transplant. They were captured from the Kaibab Forest. The birds have continued to prosper; growing to a population of approximately 250 birds. The highest hunter success ratio in Arizona results from the fall turkey hunt in the Uinkaret Mountains. Twenty five gobler permits are issued each spring, whereas the fall hunt is unlimited.

Raptor species which may be seen in the area include at least eight kinds of owls, sharp-shinned hawks, goshawks, Cooper's Hawks, red-tailed hawks, Swainson's Hawks, ravens, golden eagles and possibly three species of falcon--the kestrel, prairie and peregrine.

The Mt. Trumbull Wildlife Water Catchment #1, constructed in 1978, is the only wildlife improvement in the Class I areas. The metal apron of the catchment (24'x48') visually contrasts with the form, line, color and texture of the surrounding landscape. It is not accessible by ground vehicle and, previous to wilderness designation, was maintained through the use of a helicopter. No maintenance has been done since designation. No new improvements, habitat development projects or habitat manipulations are currently proposed within the Class I areas.

At the present time, there are no known, federally listed, threatened or endangered (T&E) species in the Trumbull/Logan Wildernesses.

BLM currently informs the deer hunter of its wilderness management concerns through press releases, contacts with BLM employees in the field, and through an information letter. Wilderness information is also provided in the Arizona Hunting Regulations by the AG&FD.

Predatory animals, such as mountain lion, bobcat and coyote are found in the wilderness. On occasion, such animals prey on livestock or wildlife to such an extent that requests for predator control work are made. Through a Memorandum of Understanding (MOU) with the U.S. Department of Agriculture Animal and Plant Health Inspection Service (APHIS), predator control for livestock is accomplished. This MOU recognizes that all predator control activities in wilderness need to be consistent with the wilderness management guidelines.

Assumptions

* Habitat is adequate to support existing wildlife in the area

* The Mt. Trumbull Wildlife Catchment #1 will require inspections to determine maintenance needs in the future

* Higher hunter use of these areas will accompany any upturn in mule deer numbers

* T&E wildlife species are not expected to be a concern in the wildernesses during the life of this plan

* Requests for control of predators may occur

Management Actions

* Paint the Mt. Trumbull Wildlife Catchment #1 to reduce its visual contrast.

* Evaluate (by BLM and AG&FD) the feasibility, for the wildlife catchment when it needs reconstruction, of 1) relocating it outside of the wilderness, 2) abandoning it or 3) reconstructing it. Consider the minimum tool necessary to achieve the desired action.

* Take the management actions necessary to comply with the Endangered Species Act, if federally listed T&E species are found in the wildernesses.

* Respond to requests for predator control in a manner which fully recognizes wilderness values and the role of predators in the natural ecosystem.

* Use correspondence, press releases and field contacts to notify licensed hunters of the wilderness management concerns.

* Work with AG&FD on mule deer studies.

* Revise the Mt. Trumbull HMP to incorporate the management direction provided by this plan for Class I areas.

Social Setting Components:

RECREATION

Currently, no campsites are documented within the Class I areas, a condition which is well within the standard of no more than one campsite per 500-acre area. With the exception of approximately 600 feet of the unmaintained Mt. Trumbull Summit Trail, there are no trails in the areas. From the terminus of this summit trail, which is currently marked with a wooden sign informing visitors of the trail's end, the route to the summit is discernable primarily by short strips of orange flagging. The flagging was installed prior to wilderness designation; probably at the time the summit trail was constructed in 1978. The sign does not conform with the signing policy for this class.

Current opportunities for solitude within the Class I areas are outstanding. There is an 86% probability of no more than one encounter per day with other recreation users in these areas during the high-use season; the standard for this indicator being 80%. In fact, there is actually an 86% probability that no encounters of this type will occur in the majority of the Mt. Logan Class I area.

Additionally, there is an 86% probability of no encounters in these areas with other-than-recreation users--such as livestock operators and administrative personnel; the standard being 80%. Since there is no evidence of campsites within these Class I areas (1,890 acres in Mt. Trumbull and 3,530 acres in Mt. Logan), the standard 90% probability of no in-camp encounters with other camps is far from being exceeded.

The physical settings and the absence of recreation developments (i.e., trails) provide situations in which the likelihood for unregulated movement in and interaction with natural environments is very high. However, the aforementioned flagging and sign on Mt. Trumbull and portions of the National Park boundary fence (see Livestock Grazing) in the Mt. Emma area slightly compromise the opportunity to experience challenge and total self-reliance.

Visitor use patterns within the Mt. Trumbull area typically involve day-hikes to the summit. Apparently, very little backpacking occurs, most likely due to lack of reliable recreational water (a wildlife water catchment is the only water source in the area-see Wildlife) and the relative ease with which desired experiences can be realized in a day. Additionally, virtually all of the visitor use is believed to occur on weekends and major holidays between the months of May and October.

Visitor profiles (based on register information obtained at the summit) typically have included off-duty administrative personnel, school children from Colorado City, Arizona, Boy Scouts from nearby towns, and other individuals and small groups, primarily from Arizona. According to the register information, about 70 visitors have attained the summit (discovered and signed the register) from 1976 to the present. Additionally, group size has ranged from one to about 45 (school group).

Any visitor use in the Mt. Logan Class I area is most likely destined for Mt. Emma and its companion cinder cones. The remote location, difficult physical access and the lack of reliable water make day use of the area very unlikely. Any visitation that does occur in this area is most likely overnight use on major holiday weekends between the months of May and October.

Visitor profiles might typically include college students and conservation organization members from within the Arizona-Utah-Nevada region.

Apparently, very little hunting or horseback use occurs in either of these areas.

Commercial guiding and/or outfitting is not currently done within the areas, however, the potential exists. An outfitter currently operating two pack trips a year with 10 participants on non-wilderness lands nearby has expressed interest in locating and upgrading an old cattle trail on the northern slope of Mt. Trumbull. He would like to then run his trips up the would-be northern trail, across the summit through Class I, and down the existing Summit Trail. Currently, there are no predetermined group size limits for prospective commercial permits.

Permits for non-commercial visitor use are not required at this time and no limits on the length of stay or party size are imposed.

Information now available to visitors includes maps distributed off-site and visitor assistance both in the office and off-site in the Uinkaret Mountains area upon request.

Assumptions

* Visitor use will remain somewhat static with a slight upward trend over the life of the plan

* Monitoring of resource and social indicators will improve current information, thereby requiring periodic review and revision of recreation objectives, policies, indicators, standards and actions

* New recreation indicators may need to be developed during the implementation period to address group size, party size and stay limits should conditions dictate

* Managing to maintain these very small Class I areas will require a preparedness to respond quickly to sudden abrupt undesirable change since their small acreages are less able to absorb such change slowly

* The demand for and the supply of commercial guiding and/or outfitting is not expected to increase significantly over the life of the plan

* A greater effort is needed in off-site user information

* Implementation of the plan will require a greater commitment of time and money than is currently committed

Management Actions

* Monitor the indicators of campsite condition in Class I areas each fall following the high-use season. Inventory all campsites found, using the impact rating worksheet, and compare the results against the Class I standards. Clean up or completely remove the campsites when the standards are exceeded. Evaluate campsites for their ability to rehabilitate naturally.

* Remove remnants of orange, plastic flagging from all trees on the hiking route to Mt. Trumbull summit. Also, remove the wooden sign currently at the end of the summit trail. Construct a semi-developed trailhead facility at the east edge of Nixon Flat. Provide information concerning the hiking route to the summit off-site at the trailhead.

* Document, as part of the overall monitoring of resource and social indicators, the sizes of any groups encountered on the Mt. Trumbull Summit Trail. Group size limits are imposed only when needed--as shown by monitoring information and visitor use data gathered at the trailhead facility.

* Monitor the social indicators in Class I areas each 4th of July weekend during the high-use season. Document the numbers and types of encounters with other recreation users and other-than- recreation users. Compare the resulting information with the standards for these indicators for Class I areas and past inventory information to determine if the current use and the trend is within the limits of acceptable change. If the trend is downward or the standards are exceeded by the documented use, consider appropriate actions to offset the declining condition. Communicate to the public any actions taken to limit or restrict visitor use using the procedures outlined in 43 CFR 8560.1-1, Permits for and restrictions on use.

* Place small, unobstrusive visitor registers on the summits of Mt. Trumbull and Mt. Emma to record visitor use at destination points.

* Evaluate existing indicators and standards for campsite conditions and solitude on an annual basis to determine if their continued use is adequate for maintaining or achieving resource and social objectives.

* Provide pertinent information off-site at the Mt. Trumbull Summit Trailhead facility to heighten visitor awareness about the experience opportunities that Class I areas offer as well as expected behavior within these areas. Maximize administrative contacts with visitors at this facility.

* Evaluate any special recreation permit applications received for providing commercial services within the wildernesses in light of this plan's policies and guidelines for such services. Do not authorize proposed services that are not compatible or can be accomodated elsewhere. Monitor any commercial services that are permitted for compliance with the permit and its stipulations. Additionally, monitor and evaluate the effects of permitted commercial services on resource and social settings following the use.

* Rehabilitate and restore to Class I standards, the existing portion of the Mt. Trumbull Summit Trail from where it reaches the top of the basalt ledge to its end (600 feet) to a more natural condition using nonmotorized means.

Managerial Setting Components:

CULTURAL RESOURCES

(The cultural resources overview described in the Introduction adequately portrays much of the existing values known and thought to be present within the wildernesses.)

Within the 1,890-acre Mt. Trumbull Class I area, roughly 1,550 acres were part of a cultural resource study done in the Mt. Trumbull region. A "Class II" cultural inventory was conducted in 1974 by the Museum of Northern Arizona (MNA). The inventory involved walking transects (covering only 616 acres) within the study area. Of the prehistoric sites documented by the survey within the wilderness, 15% were in the Class I area. The types of sites documented ranged from artifact and debris scatters to small, masonry structures believed to be used for short-term habitation by the Virgin Anasazi. No previous inventory in the Mt. Logan Class I area has been done.

Part of the analysis of the data generated by the MNA survey found that certain environmental settings were more apt to have higher densities of sites than were other environmental settings. These settings are found within the Mt. Logan Class I area, but not in the Mt. Trumbull Class I area. However, there are prehistoric sites in the latter area. Because these sites are outside the environmental setting thought to be the optimum, they are significant, in that their presence on the mountain and function within prehistoric cultural systems remains unexplained.

No historic sites have been documented in either Class I area.

The probability of site vandalism, either hobby-hunting or professional pot-hunting, is quite low in the Mt. Trumbull Class I area due to difficult access, low site densities and the site types which are not conducive to producing saleable items. While site monitoring in this area is sporadic and infrequent, there is currently no known vandalism.

Site location, density and type remain unknown for the Mt. Logan Class I area; however, access to this area is very limited and difficult, which discourages vandalism and casual surface collection.

Currently, all sites are subject to the natural forces of weathering. No excavation, stabilization or restoration has been proposed. No public use category sites are currently identified. No sites are presently listed on the National Register of Historic Places.

Assumptions

* While the MNA study established the presence of three prehistoric cultural periods in the Mt. Trumbull Class I area, further inventory and analysis will be necessary to fully and adequately describe and explain local and regional prehistory

* The priority for future study and inventory in these areas will be lower than that of both the Class II and Class III areas due to limited access and lower potential for vandalism

* The potential for vandalism of sites within these Class I areas will not increase during the life of this plan

Management Actions

* Conduct a cultural resource inventory in Opportunity Class I where baseline information is not available. Record all newly discovered sites in AZSITE (the Arizona statewide data base)

* Evaluate all sites for assignment to the appropriate use category, as defined in Arizona BLM Manual Supplement 8111.23.

* No site in Class I will be placed in a public use category

* Select and periodically monitor key sites for any adverse impacts

FIRE MANAGEMENT

> *"Current fire management philosophy recognizes that fire is not a recent aberration that the white man has visited upon the environment, but a natural part of our forest and rangeland ecosystems" (Stankey 1976).*

The results of natural ignition fire, left unsuppressed, depend on the environmental factors at a given time. Topography, the variety and density of fuels, a prolonged period of drought and hot, dry southwesterly winds can produce major fires. The same area in wetter and cooler climatic conditions may only produce small fires or none at all.

In the Class I areas, the natural role of small fires can contribute to maintaining natural conditions, reduce the buildup of ground fuel, create natural fuel breaks, create or improve habitat for wildlife, and recycle nutrients important to the overall health of the system. Naturally occuring large fires have the potential to remove the climax or near-climax forests or woodlands in the Class I areas, replacing them through succession with a young, even-aged forest or sagebrush or mountain shrub in the woodland type.

Currently, fire prevention during periods of high fire hazard is accomplished through media notifications, public contact and off-site signing. Detection of fire is accomplished partly through the coordinated use of Remote Automated Weather Station (RAWS) information and the Automated Lightning Detection System (ALDS). Aerial surveillance and on-the-ground observations by fire personnel stationed nearby complete the detection process.

Since wilderness designation, the district's "Interim Guidance for Fire Suppression in Wilderness Areas" has directed fire suppression activities in the area. Generally, the guidance is aimed at containment or control with the minimum tool necessary to accomplish those objectives. Additionally, a wilderness resource advisor is required to counsel the incident commander about wilderness resource values at risk.

Fire history has been documented in the region for 23 years. Typically, in the Class I areas, fire occurrence and intensity are low. Additionally, all fires reported were suppressed.

Based on the more accurate documentation of the last 12 years, fire frequency in the Mt. Trumbull Class I area averages 0.66 fires each year with an average size of 0.43 acres. The largest fires documented were no more than one acre in size; due in part to fire suppression activities. Virtually all fires recorded in the Class I area have been near or below the basalt rim which forms the summit--no fires documented in the interior of the area.

Fire frequency in the Mt. Logan Class I area averages 0.16 fires each year for the past 12 years with an average size of three acres. The largest fire documented was six acres. All fires documented in this Class I area have been in the higher elevations on western slopes of the Mt. Emma to Slide Mountain ridge.

Prior to wilderness designation, a helispot was established on the northern rim of Mt. Trumbull, one-half mile west of the summit. Few other natural openings in either of the Class I areas are conducive to safe helicopter landing operations. The overall size and accessiblity of the Mt. Trumbull area makes nonmotorized, on-the-ground fire operations for low intensity, low risk fires feasible. The Mt. Logan Class I area is more remote and inaccessible and, as such, is difficult for both motorized and nonmotorized on-the-ground operations. Both Class I areas are better suited to aerial suppression methods such as air tankers and helicopter bucket work.

Fires within the Mt. Trumbull Class I area generally have not threatened adjacent private structures or livestock. Fire suppression personnel have, on occasion and with permission, used private water sources. Structures at risk within the area are the Mt. Trumbull Wildlife Catchment (see Wildlife) and the Salt River Project's automated camera (see Administration).

Within the Mt. Logan Class I area, fire has the potential to threaten resources in Grand Canyon National Park and Lake Mead National Recreation Area. However no fire of record has done so, due in part to suppression activities. The only structure at risk with this area is a portion of the Grand Canyon National Park boundary fence (see Livestock Grazing). Just outside the wilderness (in the park) on the summit of Mt. Emma a small communication site operated by the U.S. Geological Survey is potentially at risk.

Prior to this planning effort, there was no prescription for allowing certain fires to follow their natural course.

(Refer to the Mt. Trumbull-Mt. Logan Fire Management Plan for further detail on fire behavior and proposed suppression techniques and prescriptions.)

Assumptions

* Fire is a natural part of this ecosystem

* Past fire suppression activities have not signficantly changed the fire regime

* Larger fires are a part of natural plant succession

* Man-caused fire is not expected to be a concern

* Fires at or near opportunity class boundaries will require suppression strategies that consider the fire management objectives of both classes

Management Actions

* Write a fire management plan which defines the way fires will be handled in the two Class I areas whether they are managed under the observation fire strategy or the fire suppression strategy.

* Identify helispots, using in-house field knowledge and aerial photography. Identify sites that consist of

natural openings or where the natural vegetative communities allow the landing of a helicopter for emergency fire fighting. No helispots are to be built or maintained within the Class I areas.

* Identify in the fire management plan all structures and contiguous lands that require special fire suppression protection.

* Do an escaped fire analysis to determine appropriate suppression strategies on all fires that burn across opportunity class boundaries.

* Coordinate with Grand Canyon National Park about fire suppression strategies in the Mt. Logan area.

* Maintain the excellent ecological condition and fire regime of the Mt. Trumbull Class I area by developing a fire plan which allows natural ignitions to be influenced by natural conditions. Study and document plant compositions typical of this area to provide baseline data for use in rehabilitating ecologically poor or fair sites having similar physical characteristics.

EMERGENCY SERVICES

Within the Arizona Strip District, and these two wildernesses, the Coconino and Mohave Sheriffs' offices have the primary responsibility for search and rescue operations. BLM's role has traditionally been one of cooperating with and actively supporting sheriff-directed search and rescue efforts, primarily in other areas of the district. The National Park Service, contiguous to much of Mt. Logan Wilderness to the east and south, carries out search and rescue operations in Grand Canyon National Park and Lake Mead National Recreation Area.

BLM recognizes an obligation to the public in cases where immediate action is necessary to provide aid to visitors who are lost, seriously ill or injured. Within the Class I areas of Mt. Trumbull and Mt. Logan, there are no cases of record where a search and rescue effort has been needed. While these areas do not pose a high hazard to visitors, this does not diminish the possibility of necessary search and rescue efforts in the future.

There is currently no cooperative agreement between BLM, NPS and the Mojave County Sheriff for search and rescue roles specific to the wildernesses. Consequently, county personnel are unaware of BLM policies for search and rescue operations in wilderness areas. Additionally, there is no formal search and rescue plan to address operational procedure or to identify potential aerial hazards and helispots for use during operations.

While several BLM personnel are qualified emergency medical technicians and all personnel are trained in first-aid practices, no one in the district is formally trained in search and rescue techniques and strategies.

Assumptions

* The Mojave County Sheriff will continue to have lead responsibility for search and rescue operations within the wildernesses

* Search and rescue actions associated with the Class I areas of Mt. Trumbull and Mt. Logan Wildernesses are expected to be low to none due to the very low visitor use in these areas

* Any increases in visitation could also increase the need for search and rescue preparedness and capability

* Effective emergency service, while maintaining wilderness objectives, will require close coordination amoung the county sheriff's staff, NPS and BLM and a common understanding of each agency's roles and responsibilities

* BLM personnel may need to initiate search and rescue operations when emergencies arise and BLM is the first contact

* The more remote nature of the Class I areas will increase the response time for ground operations

Management Actions

* Continue to guide BLM personnel in roles and responsibilities involving search and rescue with the Arizona Strip Search and Rescue (SAR) Plan even though search and rescue operations in these areas will continue to be the responsibility of the Mohave County Sheriff's office. Review the District SAR Plan each year for adequacy regarding its application in these areas. No plan specific to the Mt. Trumbull and Mt. Logan Wildernesses is needed at this time.

* Include introductory methods for search and rescue in the annual first-aid training and refresher courses for all employees.

* Rehabilitate immediately, after operations are finished, any significant surface disturbances resulting from search and rescue efforts.

* Identify helispots and any aerial hazards, using in-

house field knowledge and aerial photography. Identify natural openings or places where the natural vegetative communities would allow the landing of a helicopter during search and rescue operations. No helispots are to be built or maintained within the Class I areas.

* Document any potential hazards to public safety during wilderness patrols and monitoring efforts. If possible, correct those identified as significant, otherwise, inform the public of such hazards at the trailhead facility at Nixon Flat.

LIVESTOCK GRAZING

The 5,420 acres that comprise the Class I areas of Mt. Trumbull and Mt. Logan are small portions of two livestock grazing allotments administered by BLM.

Tuweep Allotment

The 1,890 acres of Class I within Mt. Trumbull are part of 32,169 acres of summer pasture for the Tuweep Allotment. Five pastures on a rest rotation system make up the summer range. Portions of two of these pastures lie within this Class I area, each one receiving rest every other year.

Based on a 1983 grazing decision, the active preference for the allotment is 1,980 AUMs on federal lands. The estimated active preference within this Class I area is 40 AUMs or two percent of the entire allotment.

No range improvements or areas of previous vegetative manipulation (e.g., chaining, plow and seed) exist within this Class I area and none are currently proposed. There is no ground vehicle access to this portion of the allotment.

Because there are no range study plots within this area, utilization, trend and the apparent ecological condition are extrapolated from five nearby plots. The current vegetative composition in this class appears excellent as it relates to the potential natural plant communities (see Vegetation and Glossary). The estimated utilization is from 0-5 percent and well within the standard identified for this indicator. The estimated ecological and range trend (static to slightly upward) is consistent with the resource setting objectives for the Class I area.

Big Spring Allotment

The 3,530 acres of Class I within Mt. Logan are part of approximately 28,990 acres of summer pasture in the Big Spring Allotment. Several pastures on a seasonally deferred rotation system make up the summer range. A portion of one pasture lies within this Class I area. Under the deferred system, this pasture may be rested two out of three seasons.

Based on a grazing decision made in 1980 the active preference for the allotment is 2,410 AUMs on federal lands. The estimated active preference within this Class I area is 100 AUMs or four percent of the entire allotment.

The only range improvement within this Class I area is a portion of the Grand Canyon National Park Boundary fence. There is no ground vehicle access to this improvement and, as such, any inspection and maintenance is done by nonmotorized means. No areas within Class I have been impacted by previous mechanical vegetative manipulation and none are currently proposed. However two small sagebrush areas within the woodland vegetative type have been naturally created by fire. These sagebrush sites are in middle to late seral stage and will naturally reach the potential natural plant community of pinyon-juniper woodland over time.

Because this area has no range study plots, utilization, trend and the apparent ecological condition are extrapolated from nearby plots. The current vegetative composition in this class appears excellent as it relates to the potential natural plant communities (see Vegetation and Glossary). The estimated utilization is generally from 0-10 percent and well within the standard identified for this indicator. However, there is a small area near the Paws Pocket Wildlife Catchment that is in poor to fair ecological condition and, as such, is below the standard for this indicator. This area is virtually unutilized now, but shows signs of past, heavier use.

Generally, the estimated ecological and range trend (static) is consistent with the resource setting objectives for the Class I area--except for the catchment area, which shows downward range trend.

Assumptions

* Under current grazing management systems operating within the constraints of wilderness, ecological conditions will generally remain the same or improve very slowly over time

* Utilization levels and patterns of use will remain generally as they were under pre-wilderness conditions, except in the Paws Pocket Wildlife Catchment area, which is currently receiving continued rest

* Ecological and range trend will remain generally static or slightly upward over most of the Class I areas

* Motorized vehicles and mechanized equipment will not be needed to accomplish maintenance operations on the Grand Canyon National Park Boundary fence

* Extrapolated existing range study plot information, periodic allotment inspection and actual use records will be sufficient to properly analyze changes in overall ecological conditions within the wilderness

* More frequent studies may be needed in substandard areas to more accurately monitor the ecological conditions and trend.

Management Actions

* Manage the livestock program in Class I areas to favor improving the ecological condition and trend rather than range (forage) condition and trend.

* Put the Paws Pocket area in temporary non-use status for livestock grazing. As livestock are allowed to graze in the area, utilize their presence in a manner that maximizes the ability of the area to improve ecological condition and trend.

* Coordinate with Grand Canyon National Park for the removal of the boundary fence between the Park and the BLM in the Mt. Logan Class I area.

INSECTS AND DISEASE

The relative isolation of the ponderosa pine forest of the Uinkaret Mountains region has protected it from the insect outbreaks that have plagued the other southwestern pine forests in recent years, most notably the North Kaibab. While infestations have not been a problem in the area, several forest pests are present endemically.

Within the 1,771 acres of ponderosa pine in the Class I areas of Mt. Trumbull and Mt. Logan are two endemic insects capable of damaging some or all of the forest. The Mountain Pine Beetle (*Dendroctonus ponderosae*) is endemic in all ponderosa stands. It normally attacks only old, decadent trees, but in epidemic porportions will attack and kill young, healthy trees. An epidemic could be triggered by the sudden death of large numbers of trees, such as that resulting from fire. The beetles would breed in the dead trees and attack surrounding green trees the following year.

Another endemic insect is the Southwest Pine Tip Moth (*Rhyacionia neomexicana*). This species of moth attacks 4-8 foot seedlings, killing the terminal shoot. Repeated attacks will weaken and severely deform a young tree. In contrast to most forest pests, this moth attacks on the most healthy and vigorous seedlings. Once a seedling reaches nine feet in height, it has exceeded the flight ceiling of the heavy, lumbering adult moth. The moth is quite common in the forest of the Uinkaret Mountains, although rare above 7200 feet in elevation. Much of the forested portions of the Class I areas are just beyond the optimum elevational range; their elevations generally being above 7200 feet.

The 3,123 acres of pinyon-juniper woodland found within the Class I areas are relatively free of damaging insects species. The Pinyon Needle Scale (*Matsucoccus acalyptus*) occurs rarely in the woodlands of the Uinkaret Mountains; however, when it is present it feeds on tree sap and weakens trees by killing needles that are older than one year.

There are two potential sources of disease in the forest and woodland vegetative types and both are parasites. Dwarf Mistletoe (*Arceuthobium vaginatum* subsp. cryptopodum) infects ponderosa pine trees of all age classes and may kill trees up to pole size within a few years of infection. Older trees are killed more slowly; from the top down, until all branches are dead. One small pocket of infected trees is documented within one mile of the wilderness.

True Mistletoe (*Phoradendron subsp.*), typically in pinyon-juniper woodlands, is the largest killer of juniper in the region. Only the golden fruiting bodies are visible externally with the tendrils located beneath the bark. It is not known to be a problem at this time in the woodlands of the Class I areas.

Assumptions

* Cyclic occurrences of endemic insect and/or disease infestations are a natural part of forest and woodland ecosystems

* Epidemic occurrences of insect and/or disease within wilderness may pose a threat to valuable wood resources outside the wilderness

* Epidemic occurrences of Mountain Pine Beetle resulting from human causes (i.e., a large fire traced to human ignition) will not be considered natural infestations

* Dwarf Mistletoe (known to grow in the Mt. Logan area) will not, in the near future, threaten the forested portion of the Class I area

* Treatment or control measures needed in areas at or near Opportunity Class boundaries will require

strategies that consider the management objectives of both classes

Management Actions

* Monitor the Class I areas for insect and disease infestations. Observe any infestations that break out to determine both the on and off wilderness effects. Evaluate on-site effects on a case-by-case basis. Control off-site impacts. Observe impacts from non-wilderness infestations on wilderness and take action on a case-by-case basis.

* Plan no programmatic environmental analysis for emergency responses to insect or disease outbreaks.

ADMINISTRATON

The Mt. Trumbull and Mt. Logan Wildernesses are administered under the authority and provision of the Federal Land Policy and Management Act of 1976, the Wilderness Act of 1964, and the Arizona Wilderness Act of 1984. Procedures for the management of the public lands designated as wilderness in these areas are found in Management of Designated Wilderness Areas (43 CFR Part 8560). Guidance for management of the wilderness resource is found in the BLM Manual Section 8560.

The wildernesses are administered by the Vermillion Resource Area of the Arizona Strip District of the Bureau of Land Management. A portion of Mt. Logan Wilderness lies within the Shivwits Resource Area of the same district; however, the lead responsibility for wilderness management is given the Vermillion Resource Area. The Bureau also actively manages other programs within these areas, such as recreation, wildlife, cultural resources, soils, watershed, fire, range, lands and realty.

Administrative responsibilities are vested with the Vermillion Resource Area Manager and carried out by the resource area outdoor recreation planner, with program technical guidance and assistance from the district wilderness coordinator. On-the-ground management activities, such as visitor contact, visitor use data collection and surveillance are accomplished primarily by the resource area outdoor recreation planner. These activities in the remote Class I areas are infrequent. Currently, seasonal employees or volunteers have not been extensively used to assist in accomplishing such activities.

Prior to August 1988, enforcement of the provisions of 43 CFR Part 8560.1-2, Prohibited Acts or any other laws or regulations pertinent to public lands were handled by the appropriate state, county or federal agency possessing federal law enforcement authority. The process was cumbersome and was not conducive to timely response to violations. As of August, 1988, the Arizona Strip District has employed a full-time law enforcement ranger. While timely response to violations will be improved, the enormous land area to be covered by one ranger still somewhat encumbers the ability to ensure better compliance with the public land laws.

Much of the Class I area of Mt. Logan Wilderness is contiguous to national park service lands managed by Grand Canyon National Park and Lake Mead National Recreation Area. The current management direction for most of these lands, which are administratively endorsed for wilderness designation, is for backcountry, primitive recreation and other purposes--compatible with the Bureau's wilderness management direction. The remainder of the Class I areas are contiguous to public lands within Class II areas of the wildernesses. There are no private or state inholdings within the Class I areas. Shortly after wilderness designation, all State of Arizona lands entirely or partially within these wildernesses were reconveyed to the United States of America.

Public access to these areas is discussed in the Administration section, Opportunity Class III, the transitional class.

Administrative radio communication capability from the Class I areas is currently very good (see Administration, Class III for more detail). Currently, there is no direct radio contact from these areas with state or county law enforcement authorities.

Due to the remote nature of the Class I areas and the absence of roadways or vehicle trails, off-highway vehicle violations are not a problem.

Within the Class I area of Mt. Trumbull, BLM authorized the Salt River Project to install and maintain, by nonmotorized means, a small, automated camera aimed in the direction of the San Francisco Peaks area near Flagstaff, Arizona. The camera is authorized under a temporary use permit until 1990. No other structures, other than a range development and wildlife development (see Livestock Grazing and Wildlife), exist within the Class I areas. The number and location of these developments is within the LAC standard of no more than one development per 500-acre area in Class I.

Prior to wilderness designation, motorized travel for administrative (BLM, AG&FD, USFWS) purposes in these areas consisted of infrequent helicopter use for fire suppression and wildlife management. With wilderness designation came restrictions on motorized/mechanized equipment use, including administrative use. To properly administer such uses, the Arizona Strip District instituted a policy and procedure (still in effect) for requests of motorized/mechanized equipment use. The policy requires a formal request by employees to the district manager for permission to use such equipment for administrative purposes. The procedure for authorization requires documenting the date proposed for equipment use, the type of equipment proposed for use, the purpose of the use and justification of the proposed use which includes conducting a thorough analysis that considers the need (minimum tool) as well as possible alternative methods and the reasons they cannot be employed.

Shortly after the wilderness designations of 1984, the Federal Aviation Administration (FAA), in cooperation with the Department of Interior, issued an advisory concerning wilderness overflights by all classes of aircraft. The FAA advises a minimum 2,000 feet above ground level (AGL) for all aircraft over statutory wilderness. BLM has adopted, as policy, this altitude for all administrative flights. Special exceptions to the 2,000 feet AGL are possible for emergency situations or under special circumstances requiring such use in the administration of wilderness. The procedure mentioned in the previous paragraph is used in such cases.

As part of the cooperative advisory, BLM recently began a compliance program for wilderness overflights. The BLM standard Incident Record form is used each time commercial, private or military aircraft are sighted below 2,000 feet over wilderness.

Currently, there are no special regulations, restrictions or requirements imposed on visitors beyond the existing laws, regulations and policies for management of wilderness and visitor services.

Assumptions

* Funding and personnel (including seasonal employees or volunteers) will be available to meet the desired objectives of this plan for the Class I areas

* Management practices and direction on most of the contiguous National Park Service lands will continue to be compatible with wilderness management in these areas

* Maintenance of existing structures will not require motorized or mechanized means

* Significant increases in visitation to these areas may result in a need for visitor use restrictions

* All requests for BLM administrative use of motorized/mechanized equipment in these areas will continue to be closely scrutinized with careful application of the minimum tool policy and the environmental assessment process

* The current law enforcement process will continue to be somewhat cumbersome

Management Actions

* Utilize, where appropriate, volunteers and seasonal employees to implement this plan. All personnel of this type will be supervised by and their efforts coordinated through the area outdoor recreation planner. Volunteers and seasonal employees will generally monitor and do on-the-ground project work.

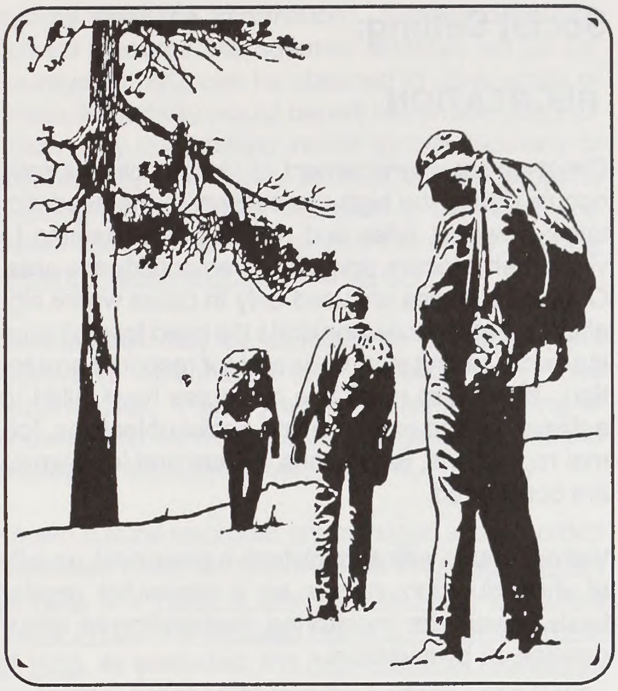
* Carry out law enforcement responsibilities using the Arizona Strip District Ranger. Other BLM personnel and volunteers will be involved in law enforcement activities only to the extent of reporting incidents observed to the district ranger. Volunteers do not initiate contact with users in such situations.

* Continue the Temporary Use Permit authorization for the Salt River Project camera on Mt. Trumbull until 1990. At that time, if renewal of the permit is requested, evaluate the need for the Mt. Trumbull location and consider alternative locations prior to issuing renewal. Continue nonmotorized maintenance of the camera.

* Continue to use the current Arizona Strip District policy and procedure for administrative use of motorized vehicles and/or mechanized equipment within the wildernesses.

* Document each incident of aircraft below 2,000 feet AGL over wilderness on Incident Record, Form 8360-4. Keep each Incident Record in the appropriate wilderness file and forward a copy through district line managers to the Arizona State Office.

* Remove the evidence of past USGS activity at Mt. Trumbull summit by cutting stumps to ground level and burning and/or hauling out remaining refuse by nonmotorized means.



OPPORTUNITY CLASS II

Objectives

(A total of 13,736 acres, 4,683 in Mt. Trumbull and 9,053 acres in Mt. Logan, make up Opportunity Class II. Refer to Map A to see the allocation of this class. The following descriptions of the resource, social and managerial settings serve as the objectives that BLM will achieve and/or maintain within the Opportunity Class II areas.)

Resource Setting:

Opportunity Class II, the more primitive recreation oriented class, consists of predominantly unmodified natural environments. The soil, water, vegetation and wildlife components of the ecosystem within the class are stable and natural processes operating predominantly free of man-induced controls. These processes are only minimally affected by the actions or presence of any users. Occasionally, visitors impact soils and vegetation in camp areas and along travel routes. Typically, these impacts are minor, temporary disturbances that recover on an annual basis. Disturbances are visually subtle and apparent only to some visitors. Impacts from other resource users, while few in number, are generally permanent and apparent to most visitors who happen upon them.

Social Setting:

This area provides visitors with excellent opportunities for solitude and isolation from others. Encounters with other visitors or other resource users are seldom in the off-season and low during the primary season of use, both in camp and while traveling. There is a high likelihood for visitors to travel unregulated and interact with the natural environment. Opportunities to utilize primitive outdoor skills and experience challenge, self-reliance and risk are also high.

Managerial Setting:

Management primarily focuses on providing primitive recreation experience settings balanced with a strong emphasis on maintaining and enhancing the natural ecosystem and its processes. To the maximum extent feasible, other ongoing BLM programs in the area are managed to conform with the wilderness goals and the resource and social objectives for this class. Management strives to use methods which contribute to achieving, maintaining, or enhancing the desired conditions for the area while fulfilling other program responsibilities.

Specific Policies, Guidelines & Standards

(See Table 5 for a comparison of these policies and guidelines with those of Opportunity Classes I and III)

Resource Setting:

WILDLIFE

Wildlife is an important component of the Class II areas. Wildlife managers will endeavor to achieve their goals and objectives primarily through actions taking place outside the Class II areas--promoting the continuation of natural processes. To the extent possible, wildlife populations, including predatory species, within the area are allowed to interact naturally.

Transplants, reintroductions and habitat developments will be considered when 1) the need to do so in Class II areas is shown to be consistent with the wilderness objectives for this class and 2) such actions are achieved using the minimum tool. Since the resource objectives for the Class II areas are conducive to natural protection of threatened and endangered species of wildlife, management of such species will be the minimum necessary to comply with the Endangered Species Act. In riparian/wetland areas, restoration programs or practices can be considered for people-caused degradation or when there is a clear showing of future benefits to primitive recreation opportunities.

Wildlife management activities that are necessary within the Class II areas will be carried out using the minimum tool. BLM strongly encourages minimizing the number of wildlife or habitat monitoring overflights and maximizing the altitude of those that are clearly needed. However, where no reasonable alternatives exist, the occasional, short term use of helicopter landings may be authorized.

Hunting and trapping are permitted, subject to applicable state and federal laws and regulations. If these activities begin to cause unacceptable change to the desired wilderness conditions, coordination efforts between BLM and AG&FD will determine both the cause of the change and the most appropriate actions to restore conditions.

Social Setting:

RECREATION

Direct on-site management of visitors occasionally occurs during the high-use season as the need dictates; however, rules and regulations pertaining to visitor behavior are primarily given outside the area. On-site strategies are used only in cases where significant problems demonstrate the need for maintaining social setting standards and/or resource protection. When less restrictive measures have failed to achieve desired resource and social objectives, formal regulations, restrictions, orders and/or permits are considered.

Visitor contact with administrative personnel, usually of short duration, occurs on a somewhat regular basis, usually for monitoring, responding to emergencies, or by invitation.

Informal off-site user awareness methods are the primary thrust of visitor use management. Formal methods are employed when informal methods fail to achieve desired results. Temporary signs are used as a last resort--an on-site strategy for maintaining the social setting standards and/or for resource protection. Light-duty trails are only built as a method of protecting resource values or for public safety.

Use authorizations for commercial services to operate in this area are considered when the services provided are necessary for realizing recreational or wilderness experiences. Applications for special recreation permits for outfitting or guiding within Class II areas are analyzed to determine if the proposed use is appropriate for the class or if other lands would better serve the intended purpose. Such permitted uses may establish temporary, minimum impact base camps where such use is compatible with resource and social setting standards. The required special recreation permit contains stipulations appropriate for maintaining the area's resource and social settings.

Managerial Setting:

CULTURAL RESOURCES

Most cultural resources will remain in an undisturbed state, subject only to forces of nature. Any proposal for legitimate scientific study will be thoroughly scrutinized to ensure that the project will not conflict or compromise with the resource and social setting for Class II, and it is necessary to preserve significant cultural resource information. Surface disturbing cultural resource management activities will be discouraged if data can be obtained in other areas or unless the activity would benefit recreation opportunities. Any undertaking including data recovery or stabilization, which may effect a cultural property meeting the criteria for inclusion in the NRHP, requires compliance with Section 106 of the National Historic Preservation Act and 36 CFR 800.

Several sites may be allocated to public use and interpreted to enhance the recreation experience opportunities. Field inventories and monitoring of known sites within the area are generally second priority behind Opportunity Class III.

Known cultural resources are managed and accorded protection under the provisions of the Antiquities Act of 1906, the Historic Sites Act of 1935, Executive Order 11593, the National Historic Preservation Act of 1966, as amended, the Archeological Resources Protection Act of 1979 and the Federal Land Policy and Management Act of 1976--with strong consideration given to the resource and social objectives of the area. Structures having historical significance will remain in the area.

FIRE

Management of fire allows for the role of natural fire in the area. The Fire Management Plan (Appendix A) specifically addresses the way this is achieved. All fires that threaten human life or property within the wilderness or life, property or resources outside the wilderness are controlled.

Fire suppression options for natural ignitions allow for observation, modified attack and containment as conditions dictate. Human-caused ignitions are either contained or controlled. When containment or control action is needed, techniques are used that result in the least possible surface and vegetative disturbance.

Following any fire greater than five acres, an analysis is made to determine the appropriate rehabilitation measures to protect sensitive soils or restore high quality primitive recreation settings (i.e., reseeding fire lines, planting seedlings). Prescribed fires ignited by BLM personnel are considered for purposes of fire regime restoration only. Prescribed natural fires are allowed.

EMERGENCY SERVICES

Search and rescue responsibilities and procedures are clarified and coordinated with Mohave County authorities and the National Park Service, Grand Canyon National Park, to provide timely and appropriate response where life-threatening or visitor safety situations occur. All permanent and seasonal BLM personnel who work in the Mt. Trumbull-Mt. Logan area are to be familiar with any procedures prescribed in a search and rescue plan.

A plan establishes strict criteria under which helicopter use will be allowed for life-threatening situations. Helispots are not pre-constructed but are located and cleared when they are needed. Natural clearings conducive to safe helicopter landings are to be identified in a plan.

LIVESTOCK GRAZING

Livestock grazing numbers are generally be managed at the level of active preference in place at the time of wilderness designation. Any increases and/or decreases to these numbers depend on guidance found in AZ-IM-87-55 and WO-IM-87-142. Class of livestock changes (e.g., from cattle to horses) are considered where adverse affects or changes to ecological objectives would not result.

Access by motorized vehicle to improvements for maintenance purposes is considered only where such use occurred previous to wilderness designation. Maintenance schedules (Appendix C) are to conform as much as possible with the resource and social objectives for the area. Maintenance on any new structures constructed after designation is to be nonmotorized. A list of all existing range developments within the area is to be compiled, the permittee(s) notified of both the nonmotorized and motorized maintenance requirements, and the maintenance decision made a condition of the AMP and/or the grazing permit.

Construction of new structures is considered only when benefits to wilderness values are clearly demonstrated. As any existing structures require major reconstruction or costly maintenance, consideration is given to relocating the development outside the wilderness. Prescribed burning is used only when the primary purpose is to correct human-caused ecological instability.

INSECTS AND DISEASE

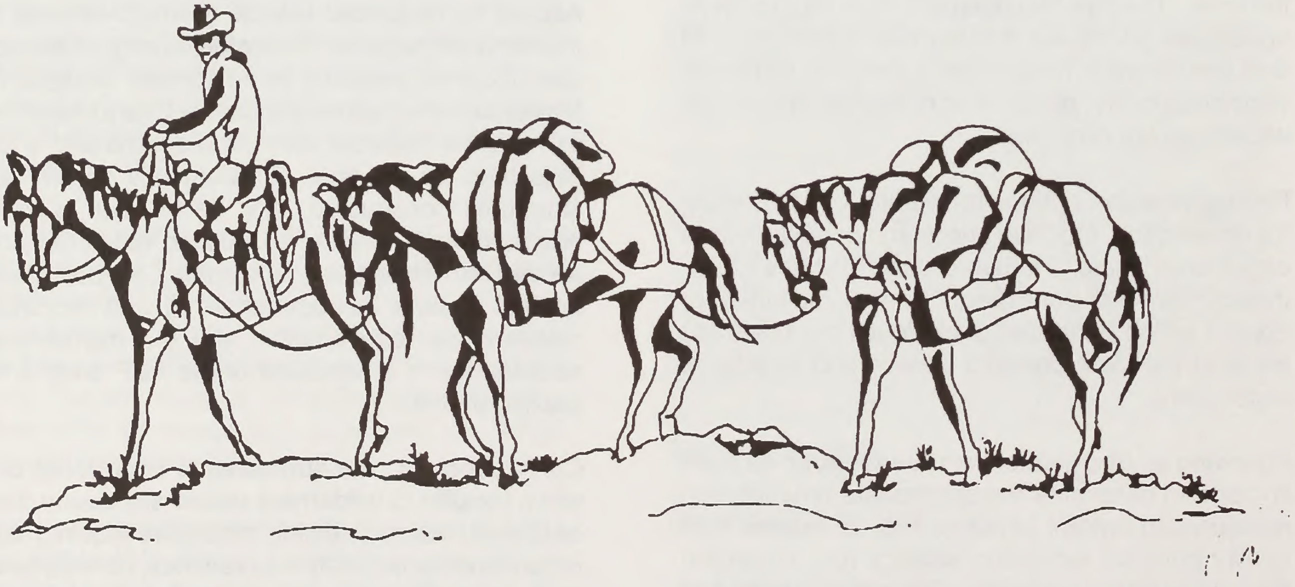
Treatments for control are considered where the outbreak is human-caused and the trend is toward exceeding the area's ecological standards. Decisions for treatment take into account recreation user attitudes concerning control.

Plans for the control of insects and disease stress the use of natural, biological techniques (e.g., introduction of sterile specimens into the population to prevent regeneration). Applications can go beyond the problem area to control spread. Programs developed to control insects and/or disease must be approved prior to implementation by the Director of BLM.

ADMINISTRATION

Proposals are considered for the scientific study of resources, provided they depend on a wilderness setting, they provide information that contributes to better management of wilderness, and the study methods and timing are compatible with resource and social standards.

Building new administrative structures, including communication facilities, is considered only when a need is demonstrated for reasons of public safety. Proposed structures, other than administrative, are considered only when there is a demonstrated need to protect wilderness values or where those values would be benefited. As existing administrative or other structures require major reconstruction or costly maintenance, consideration is given to relocating the development outside the wilderness, so long as the intended purpose of the development can continue to be served in the new location.



Class II Indicators and Standards

(See Table 6 for comparison of these Standards with those of Classes I and III)

FACTOR	INDICATOR	STANDARD
RESOURCE:		
A. Campsite Conditions	1. Number of campsites per 500-acre area	No more than 3 sites
	2. Number of impacted sites/500-acre area exceeding a given impact rating	Highly impacted (0) Moderately impacted (1) Minimally impacted (2)
B. Vegetative Conditions	1. Overall ecological condition of potential natural plant communities *	Not below good
	2. Percent utilization of key forage **	No more than 25%
C. Man's Influence	1. Developments per 500-acre area	No more than 3
SOCIAL:		
D. Solitude (as affected by recreation users)	1. Number of other recreation parties encountered per day while traveling	80% probability of no more than 2 encounters
	2. Number of other parties camped within sight/sound per day	90% probability of no more than 1 encounter
E. Solitude (as affected by other users	1. Number of encounters per day with non-recreational parties	80% probability of no more than 3 encounters

* Ecological condition is not a true "indicator;" it is more of a rating system or a "factor." We are using ecological condition and the standards as guidelines to direct field evaluations and management decisions. As we refine our monitoring process, we will identify key vegetative species and standards which will better reflect natural, ecological plant composition.

** Current livestock utilization levels are generally below the standard mentioned here. If the standard for utilization is approached or exceeded, a more in-depth evaluation of the cause of the increased utilization will be triggered. Adjustments to livestock numbers will not be based on this standard.

Existing Situation, Assumptions, and Management Actions

Resource Setting Components

VEGETATION

Due to the nature of the terrain in the Class II areas and the lack of past exploitation, the vegetative composition is generally very close to potential natural communities. The relatively undisturbed pinyon-juniper woodland that makes up most of these areas (10,503 acres) is predominantly unmodified.

While the Mt. Trumbull Class II area is predominantly undisturbed, several small locations show evidence of vegetative change due to the activities of man. Nixon and Coyote Springs and their associated pipeline corridors have been disturbed (see Livestock Grazing). Additionally, about three miles of cleared fenceline have also altered the natural vegetative cover (see Livestock Grazing). Finally, the portion of the Mt. Trumbull Summit Trail that passes through the Class II area (see Recreation) has had minor effect on the natural vegetative condition along portions of its length.

All of these areas were disturbed prior to wilderness designation. Due to the relatively small acreages involved and to the time period between the initial disturbance and present, these areas have proceeded to revegetate naturally. However, the disturbed areas have not "caught up" with the undisturbed areas that surround them.

Within this Class II pinyon juniper woodland are smaller quantities of oak, locust, sagebrush, isolated ponderosa pines, shrubs, forbs and grasses. In the higher elevations of the area on the northern slope of the mountain, are 757 acres of ponderosa pine, which also contains a mix of the aforementioned species. There are small pockets of predominantly mountain shrub (locust, oak, mahogany, manzanita) totalling 70 acres and 66 acres of sagebrush. Finally, each of the previously mentioned springs support small areas of wetland species (aspen, grasses) totalling about six acres.

Within the Mt. Logan Class II areas, the majority of vegetation still remains in a predominantly unmodified state, where the imprints of man are virtually unnoticeable.

The dominant vegetative type is the 6,729 acres of pinyon-juniper woodland. About 268 acres of pinyon-juniper were mechanically altered and are currently in an earlier seral stage. A significant portion of the treated acreage is in the central portion of the wilderness. One narrow portion creates an undulating corridor of sorts for the Slide Mountain Wildlife Catchment Road, which accesses several range and wildlife developments. These areas were chained to remove pinyon-juniper woodland and allow more desirable forage species for livestock. These chainings are 20-30 years old and have reestablished themselves with young, denser stands of pinyon-juniper and sagebrush. In the same vicinity of the chainings are approximately 1.5 miles of existing fenceline where vegetation was cleared prior to fence construction. Plant composition has also been altered in a small area around Pa's Pocket Wildlife Catchment due to past land treatment efforts.

Within and adjacent to the woodland areas are interspersed areas of mountain shrub (locust, oak, mahogany, manzanita) totalling 730 acres. Four small distinct areas, primarily sagebrush, are on the perimeters of the woodland areas. Several isolated pockets or stringers of ponderosa pine totalling 146 acres, as well as several wetland areas totalling about four acres, are found within the Mt. Logan Class II area. One of these wet areas, Randall Spring, has just emerged. Finally, interspersed throughout the vegetative types are roughly 676 acres of barren volcanic flows, many of which are on steep slopes and are inaccessible.

Because visitation is low in the Mt. Trumbull and Mt. Logan Class II areas, natural plant succession interruptions by visitors are very minimal and natural recovery occurs well within one growing season. Since there are no established campsites currently known in the areas, damage to trees, shrubs and ground cover is nonexistent.

The Class II areas do not contain any plant species known to be threatened, endangered or sensitive.

Assumptions

* The majority of the Class II areas of Mt. Trumbull and Mt. Logan are close enough to natural conditions for pinyon-juniper woodland ecosystems in their diversity so they can serve as baselines for other areas having similar characteristics of soil, slope, precipitation and vegetation

* The only natural interruptions to plant succession that may be expected during the life of the plan would originate from processes of fire, insects or disease

* The possible evolution of popular campsites in the future could affect natural succession on a localized basis

* Left unhampered, the areas of previous vegetative disturbance will continue to move toward their potential natural plant communities.

* Any major reconstruction efforts carried out for the existing developments and/or the summit trail will affect vegetation on a localized basis

* Randall Spring provides an opportunity to study the evolution of newly emerging wetland ecology.

* Administrative response to natural phenomenon such as insects (e.g. control of insects where valuable resources outside are threatened from an infestation within wilderness) could cause an unnatural interruption to the natural succession within the Class II areas

Management Actions

* Monitor the indicators of campsite condition in Class II areas each fall following the high-use season. Inventory all campsites found using the impact rating worksheet and the results compared against the Class II standards. Clean up or completely remove campsites when the standards are exceeded. Evaluate all campsites for their ability to rehabilitate naturally.

* Reseed Pa's Pocket with a mix of native species. Solicit volunteers and carry out operations using non-motorized means.

* Allow the Coyote Spring pipeline corridor to revegetate naturally. Pile slash on Nixon Spring pipeline corridor to encourage less runoff and more rapid natural revegetation. Solicit volunteers to reseed with native species as the opportunity arises.

* Maintain fences generally by non-motorized means and create no new vegetative disturbance.

* Road maintenance is rarely authorized. As the opportunity arises, revegetate the already barricaded Upper Big Springs Road using non-motorized means. Allow the Slide Mountain Wildlife Catchment Road corridor to revegetate naturally. Utilize both road corridors as natural fire breaks for the life of this plan.

* Monitor and study Randall Spring for proper livestock grazing utilization

* Monitor grazing management annually to ensure that ecological conditions are not degrading. Focus the Fire Management Plan on maintenance or improvement of ecological condition as it is developed. When reviewing and evaluating the existing grazing management plans, make areas of substandard ecological condition the primary focus.

* In all areas of previous vegetative manipulation, allow fire to play its natural role as much as possible in order to reestablish a more natural vegetative pattern. Manage livestock grazing to encourage the reestablishment of a better ecological condition.

SOIL, WATER, AIR

Soil

The predominant soil type (3,345 acres) in the Mt. Trumbull Class II area is Siesta very cobbly clay loam on 15-45% slopes. There are 980 acres of the Showlow very cobbly silty clay loam soil type on the 12-35% slopes that lie along the eastern base of the mountain. These two soils are both deep, well drained soils, however the Siesta has a slight to moderate erosion hazard while the Showlow's erosion hazard is very severe.

The third soil type in the Mt. Trumbull Class II area is 204 acres of Wukoki Variant-Lomaki Cold Variant complex encompassing the lower slope of the small cinder cone on the south rim of the basalt ledge. On 15-60% slopes, these deep soils of extremely gravelly loam overlay cinders below and have a moderate to high erosion hazard.

Two other soil types are in small acreages within this Class II area. The Ildefonso-Winona Association (50 acres) and the Showlow very cobbly clay loam (14 acres) soil types are on the northeastern edge of the wilderness. The Ildefonso-Winona Association combines the deeper Ildefonso soil with a shallower Winona soil, both of which are well drained on 3-18% slopes. The Showlow soil is a deep, well drained soil on 4-16% slopes and has an erosion hazard of moderate to severe.

Recent soil survey information for the majority of the Mt. Logan Wilderness is not currently available. However, portions of the wilderness north of the old Forest Service boundary have been surveyed. From this information, it appears that much of the Mt. Logan Class II area contains soils similar to those mentioned above. Apparently, the majority of the Mt. Logan Class II area is Siesta very cobbly clay loam on 15-45% slopes with Wukoki Variant-Lomaki Cold Variant complex on the 15-60% slopes of the Slide Mountain to Mt. Emma area.

Hell's Hole and its watershed area are classified as Badland; characterized by steep to very steep slopes (25-75%), with only small pockets of soil material and active, geologic erosion. A portion of the northwest rim of Hell's Hole consists of Podo loam; a shallow and well drained soil on moderate slopes (5-25%) and possessing a slight to moderate erosion hazard.

Currently, there is almost no soil instability within the majority of the Class II areas. However, portions of the Mt. Trumbull Summit Trail as it passes though this opportunity class are showing signs of water erosion. Many of the original wooden water bars are either gone or backfilled with sediments. One of the Mt. Logan Class II areas near Pa's Pocket Wildlife Catchment, an old land treatment (chaining), is undergoing accelerated soil loss due to lack of sufficient ground cover.

Water

Three of the four perennial water sources in the Mt. Trumbull Wilderness are in the Class II area. Two springs, Coyote and Quaking Aspen, are on the northern slope of the mountain near the upper elevations of this area. The third spring, Nixon, is the only permanent water source on the southern slope, also in the upper elevations.

All springs except Quaking Aspen have been inventoried and tested. The chemical quality is excellent as measured by the Total Dissolved Solids (TDS) levels. Quaking Aspen Spring is the only undeveloped water source; its flow is undetermined. The remaining springs were developed long ago and continue to serve several purposes.

Nixon Spring supplies water to livestock at troughs outside the wilderness, the pipeline provides potable water for recreational use at a spigot just outside the wilderness and supplies the BLM administrative facility at Nixon Flat a short distance away. At the Nixon Spring site, the pipeline supplies a small wildlife drinker with water while a small quantity of surface flow supports an area of riparian vegetation. Nixon Spring has an Arizona State water rights filing on it which is held by the livestock grazing permittee.

Coyote Spring supplies water to livestock at troughs outside the wilderness and potable water to the Craig Ranch headquarters north of the wilderness. All water from this spring is transported via buried pipeline out of the wilderness leaving no surface flow. Coyote Spring currently has no water rights filing on record.

Only one perennial water source is in the Mt. Logan Class II area. Newly emerged (1985), Randall Spring is as yet undeveloped and has no water rights filing on record.

Ephemeral water sources may appear in the Class II areas during a period of greater precipitation or during spring thaw, however these sources are not consistent. A wildlife catchment on the eastern slope of Mt. Trumbull, two catchments in the Mt. Logan Class II area in the vicinity of Mt. Emma (see Wildlife) and three stock reservoirs (see Livestock Grazing) are the only other developed water sources in the Class II areas. None of the reservoirs currently have water rights filings on record.

Air

The air quality classification for these areas is Class II; allowing moderate deterioration associated with moderate, well-controlled industrial and population growth. The classification was established under the Clean Air Act (as amended 1977) for all BLM-administered lands.

Within three miles of Mt. Trumbull to the east and south and contiguous to a portion of the Mt. Logan Opportunity Class II area lies Grand Canyon National Park, which is classified as Class I airshed. The quality of the airshed in the Opportunity Class II areas is currently within the baseline air standards for the park.

Specifically, air quality is good to excellent with the lowest levels of Total Suspended Particulate (TSP) in winter and the highest levels in summer. On an area-specific basis, potential sources of TSP concentration are wildland fires, urban pollutants from large cities to the south and west, and dust from higher traffic volumes on the Mt. Trumbull road during higher use periods.

BLM does not have the prerogative to change the air quality classification, however, the State of Arizona may reclassify after completion of study required by the Clean Air Act Amendments of 1977. BLM currently manages air quality in the Mt. Trumbull-Mt. Logan region to the same standards as those of Grand Canyon National Park.

Winds in the area are most commonly from the south and southwest, generally ranging from five to ten mph. Higher winds generally accompany regional frontal systems passing through the area and summer thunderstorms. Winds from the north can come in the fall and winter.

Precipitation in the Class II areas is similar to that of the Class I areas. Rain gauge information accumulated in the Mt. Trumbull area since 1977 shows that winter and summer are typically the highest precipitation periods. Overall, the average precipitation in these areas is extrapolated as ranging from 17 to 20 inches per year.

Assumptions

* Soil conditions are generally expected to remain stable in these areas throughout the life of the plan as long as the vegetative communities remain

* Soil erosion along portions of the Summit Trail and in the Pa's Pocket Wildlife Catchment area will continue to accelerate

* Since Nixon Spring is the only reliable free flowing water within the wilderness, its use will likely increase proportionately to any increase in visitor use in the immediate vicinity

* Established water rights existing under state law prior to wilderness designation will not be affected by the wilderness designation

* If unappropriated water is available, the amount of water claimed by BLM would be limited to the minimum amount required to satisfy wilderness purposes

* Changes in air quality to warrant a reclassification are not expected during this plan

* Unless and until the State of Arizona changes the classification, wilderness lands in Opportunity Class II will continue to be managed for Class II or better air quality

* Greater traffic volume in the future along the Mt. Trumbull road during drier soil conditions will not significantly affect the air quality within the Opportunity Class II areas

* Randall Spring provides an opportunity to study the evolution of newly emerging wetland ecology

Management Actions

* Reduce runoff and increase infiltration by reseeding the Pa's Pocket area with a mix of native species. Solicit volunteers and carry out operations using non-motorized means.

* Maintain the Mt. Trumbull Summit Trail by non-motorized means to protect both on and off site resources. Rebuild water-bars to divert runoff and reduce erosion of the trail. Solicit volunteers to perform the work. Study the trail for possible realignment in problem areas.

* File water rights in BLM's name on all springs that have unappropriated water available for wildlife and present and future recreation purposes.

* Continue to test the Nixon Spring water for culinary standards. Study Quaking Aspen and Randall Springs for future development for recreation and wildlife purposes. Test culinary standards of all springs that are developed for recreational use. Make this information available to the public upon request.

WILDLIFE

Wildlife species are natural components of the Mt. Trumbull and Mt. Logan Wildernesses. The wide variety of permanent or seasonal species in these areas contributes to the overall value of these wilderness areas to both the recreationist and the scientist.

The Mt. Trumbull-Mt. Logan Wilderness Management Plan will briefly discuss wildlife, but only as its management has a potential to diverge from the wilderness objectives.

Wildlife management typically involves two elements, species management and habitat management. The principal management responsibility of the BLM in relation to wildlife is habitat. The Arizona Game and Fish Department (AG&FD), and the U.S. Fish and Wildlife Service (FWS) primarily have the responsibilities of species management, however, BLM and FWS are responsible for management of Threatened or Endangered wildlife species.

The Habitat Management Plan (HMP) is the primary management tool for establishing a comprehensive wildlife program for the Uinkaret Mountains. The Mt. Trumbull HMP was written in 1976 and for the most part has been implemented. In this HMP is a comprehensive list of over 200 species of fauna which occur in the Uinkaret Mountains and portions of the Kanab Plateau. It also includes a thorough review of the habitat and wildlife species interrelationships. The age of the HMP and the fact that wilderness objectives and mandates are now part of the existing situation point to a need for revision to the HMP to better reflect the current and future management objectives for wildlife in wilderness.

BLM and AG&FD work closely in managing both the habitat and the species in the Uinkaret Mountains area under the existing Mt. Trumbull HMP. Since the HMP covers a much larger area, intensive management objectives have not been specifically directed toward these small wilderness areas.

In the Class II areas of Mt. Trumbull and Mt. Logan poaching of wildlife species and conflicts with predatory wildlife species are not significant problems. No feral animals have been documented in these wildernesses. Within the relatively small Class II areas, most wildlife species are believed to be transient; generally occupying other adjoining areas as part of their total home range.

Twenty years ago the Mt. Trumbull region was famous for its mule deer herd and its production of record-book bucks. Several of the largest deer ever shot by hunters in Arizona came from here. However, in recent years the deer numbers have declined dramatically and today few deer can be found in this area. There is not consensus as to the reasons for this decline. Debates center around higher seral stages, increased water developments and predation. The AG&FD are interested in conducting future surveys to better understand current trends in the deer population.

Two non-native species which probably receive the most attention by hunters in the Mt. Trumbull and the Mt. Logan area are the Kaibab squirrel and the Merriam turkey. Both species are doing well and occupy most of the available Ponderosa pine habitat in the area.

Kaibab squirrels were transplanted in the Mt. Trumbull area from 1971 to 1975 to extend the range of the species (improving possibilities to remove them from protection under the Endangered Species Act and stabilize populations throughout their range), to possibly open a hunting season and to protect the species from potentially being wiped out by disease. There are no known tagged squirrels. Due to the small number of Kaibab squirrels released their gene pool is considered restricted.

Turkeys were transplanted into the Ponderosa pine forests of Mt. Logan in 1961. Thirty seven birds comprised the initial transplant. They were captured from the Kaibab Forest. The birds have continued to prosper; growing to a population of approximately 250 birds. The highest hunter success ratio in Arizona results from the fall turkey hunt in the Uinkaret Mountains. Twenty five gobbler permits are issued each spring, whereas the fall hunt is unlimited.
Raptor species which may be seen in the area include at least eight kinds of owls, sharp-shinned hawks, goshawks, Cooper's Hawks, red-tailed hawks, Swainson's Hawks, ravens, golden eagles and possibly three species of falcon--the kestrel, prairie and peregrine.

In Mt. Trumbull Class II area are two wildlife developments--Nixon Springs drinker and Witches Wildlife Water Catchment: and in Mt. Logan two wildlife water catchments--Pa's Pocket and Slide Mountain. The aprons of these catchments visually contrast with the form, line, color and texture of the surrounding landscape. Pa's Pocket and Slide Mountain Catchments are accessible by ground vehicle and, previous to wilderness designation, were maintained through the use of vehicles. The Nixon Springs drinker and Witches Catchment do not have existing ground vehicle access. No maintenance has been done on any of the catchments since designation, however, minor maintenance activities were carried out on the Nixon drinker by BLM in 1986. No new improvements, habitat development projects or habitat manipulations have been proposed within the wildernesses.

At the present time, there are no known federally listed, threatened or endangered (T&E) species in the Trumbull/Logan Wildernesses.

BLM currently informs the deer hunter of its wilderness management concerns through press releases, contacts with BLM employees in the field, and of an information letter. Wilderness information is also provided in the Arizona Hunting Regulations by the AG&FD.

Predatory animals, such as mountain lion, bobcat and coyote are found in the wilderness. On occasion, such animals prey on livestock or wildlife to such an extent that requests for predator control work are made. Through a Memorandum of Understanding (MOU) with the U.S. Department of Agriculture Animal and Plant Health Inspection Service (APHIS), predator control for livestock is accomplished. This MOU recognizes that all predator control activities in wilderness need to be consistent with the wilderness management guidelines.

Assumptions
* Habitat is adequate to support existing wildlife in the area

* The Mt. Trumbull and Mt. Logan Wildlife developments will require inspection to determine maintenance needs in the future. The minimum tool policy should apply. Nixon Spring wildlife drinker should not require motor vehicle use

* Higher hunter use of these areas will accompany any upturn in mule deer numbers

* T&E wildlife species are not expected to be a concern in the wildernesses during the life of this plan

* Requests for control of predators may occur

Management Actions

* Paint the Witch, Pa's Pocket and Slide Mountain Wildlife Catchments to reduce their visual contrast.

* Evaluate with AG&FD the feasibility, when catchment reconstruction is needed of 1) relocation outside the wilderness, 2) abandonment or 3) reconstruction. Consider the minimum tool necessary to achieve the desired action.

* Take the management actions necessary, if federally listed T&E species are found in the wildernesses, to comply with the Endangered Species Act.

* Respond to requests for predator control in a manner which fully recognizes wilderness values and the role of predators in the natural ecosystem.

* Use correspondence, press releases and field contacts to notify licensed hunters of the wilderness management concerns.

* Evaluate requests for wildlife development maintenance using the minimum tool policy.

* Barricade the Pa's Pocket Wildlife Catchment access road.

* Work with AG&FD on mule deer studies.

* Revise the Mt. Trumbull HMP to incorporate the management direction provided by this plan for Class II areas.

Social Setting Components:

RECREATION

No campsites are documented within the Mt. Trumbull Class II area; well within the standard of no more than three campsites per 500-acre area. The only trail is about 4300 feet of the unmaintained Mt. Trumbull Summit Trail on the southern slope. The trail through this class is in good condition in the upper stretches, however, the lower portion is experiencing some erosion and water bar washout.

Within the southern Mt. Logan Class II area are three primitive campsites; all within several hundred feet of each other near the southern wilderness boundary in the Pa's Pocket Wildlife Catchment area. The campsites are not typical for wilderness in that they are car-camp type sites established prior to wilderness designation when they were used by deer hunters and were accessed by motor vehicle. There is evidence that this still occurs on occasion. Their number and proximity to one another are at the standard of no more than three campsites per 500-acre area.

These camps exceed the standard for the number of impacted campsites exceeding a given impact rating per 500-acre area. Within this grouping of camps, all three are moderately impacted; the standard being no more than one moderately impacted and two minimally impacted. The significant impacts include littered fire rings; bare, compacted soils; some tree damage; and evidence of vehicle up to 1500 feet inside the wilderness. No other campsites are documented in the Mt. Logan Class II areas.

No constructed trails are in the Mt. Logan Class II areas; however, trails were proposed in the Hell's Hole area in the Mt. Trumbull Recreation Management Plan in 1976. The combination of topography, vegetation and scenery continue to provide opportunities for trail development in this area.

Current opportunities for solitude within all the Class II areas are high. There is an 86% probability of no more than one encounter per day with other recreation users during the high-use season over the majority of the areas. Two small areas within the Mt. Trumbull Class II area and one within the Mt. Logan Class II area have an 86% probability of no more than two of these encounters per day. Overall, the class is well within the standard of 80% probability of no more than two encounters.

Currently, there are several possibilities in the Mt. Trumbull Class II area for encounters with other-than-recreation users (livestock operators, administrative personnel); these encounters largely involve outside wilderness sights and sounds along several miles of well-used boundary roads. Along the southern slope of Mt. Trumbull there is an 86% probability of no more than three of these encounters per day during the high-use season (standard is 80%). Along the lower reaches of its northern slope, there is an 86% probability of no more than two encounters of this type per day. On the majority of the northern and eastern slopes, there is an 86% probability of no more than one of these encounters per day.

In both the Mt. Logan Class II areas, there is an 86% probability of no encounters with other-than-recreation users on any given day.

With no evidence of campsites in the Mt. Trumbull Class II area, and the campsites in the southern Mt. Logan Class II area rarely used, the standard 90% probability of no more than one in-camp encounter with other groups camped nearby is well within the acceptable range.

The overall physical setting and the relative absence of recreation developments (i.e., trails, signs) provide a situation in which the likelihood for unregulated movement in and interaction with the natural environment is high. The Summit Trail and portions of two water pipelines on Mt. Trumbull as well as portions of roadways in the Mt. Logan Class II area slightly compromise the opportunity to experience challenge and total self-reliance; however, in the Class II areas as a whole, these opportunities are still high.

Typical visitor use patterns in the Mt. Trumbull Class II area involve day-hiking on Mt. Trumbull's southern slopes in the Nixon Spring area and on the Summit Trail. Very little backpacking occurs solely within this area due to the general lack of desirable destinations, the lack of reliable recreational surface water and the relative ease with which desired experience can be realized in a day. This area primarily serves as a zone through which visitors pass traveling to the summit in Class I. Like Class I, virtually all of the visitor use is believed to occur on weekends and major holidays between the months of May and October.

Visitor profiles for those passing through the Mt. Trumbull Class II area on the way to the summit are the same as those described in Class I. Those day-hiking in the lower elevations of the area are most likely visitors car-camping near the boundary. Based on occasional licence plate observations, these visitors generally are local (southern Utah) and regional (Utah, Arizona, Nevada) residents with a small percentage of visitors from other nearby states.

Any visitor use in the Mt. Logan Class II area is most likely destination oriented; the destinations being Mt. Emma and its companion cinder cones and the Hell's Hole area. The remote location, difficult physical access and the lack of reliable water make day-use of the southern area very unlikely. However, the Hell's Hole area is much more accessible and conducive to day-hiking. Visitors most likely use this area on major holiday weekends between the months of May and October.

Visitor profiles might typically include college students and conservation organization members from within the Arizona-Utah-Nevada region.

Like Class I areas, very little horseback use occurs in the Class II areas; however, deer hunting does, although success has been marginal in recent years.

The existing situation for commercial guiding and/or outfitting in these Class II areas is the same as that described for Class I.

Permits for non-commercial visitor use are not required at this time and no limits on the length of stay or party size are imposed.

Information now available includes visitor maps distributed off-site and visitor assistance both in the office and off-site in the Mt. Trumbull area upon request.

Assumptions

* Visitor use will remain somewhat static with a slight upward trend over the life of the plan

* Monitoring of recreation indicators will improve current information, thereby requiring periodic review and revision of recreation objectives, policies, indicators, standards and actions

* New recreation indicators may need to be developed during the implementation period to address group size, party size and stay limits should conditions dictate

* Managing to maintain the small Mt. Trumbull Class II area will require a preparedness to respond quickly to sudden abrupt undesirable change since its size is less able to absorb such change slowly

* The demand for and the supply of commercial guiding and/or outfitting is not expected to increase significantly over the life of the plan

* A greater effort is needed in off-site user information

* Implementation of the plan will require a greater commitment of time and money than is currently committed

* The areas possesses qualities which would be conducive to some trail development

* The Summit Trail and any subsequent trails built will require defining a standard of maintenance and a commitment of funds to maintain the standard

* Maintaining the standard for encounters with other-than-recreation users in Class II areas could involve management actions outside the wilderness

Management Actions

* Monitor the indicators of campsite condition in Class II areas each fall following the high-use season. Inventory all campsites found using the impact rating worksheet and the compare the results against the Class II standards. Clean up or completely remove campsites when the standards are exceeded. Evaluate all campsites for their ability to rehabilitate naturally.

* Remove the evidence of car-camps in the Pa's Pocket Wildlife Catchment area by nonmotorized means. Barricade and sign the entry roadway to these camps at the Lake Mead National Recreation Area boundary.

* Maintain the Mt. Trumbull Summit Trail to insure safe travel by visitors. Maintenance will include studying the trail and identifying specific problem areas where corrective action is needed. Corrective action may include realignments, increasing tread width, reducing grades and replacing and/or installing water bars.

* Build no new trails in Class II areas at this time. However, information about other possible hiking opportunities within the areas will be conveyed upon request.

* Propose no group size limits in this plan. However, as part of the overall monitoring of wilderness indicators, the sizes of any groups encountered on the Mt. Trumbull Summit Trail will be documented. Any group size limits imposed in the future will be a result of monitoring information and visitor use data gathered at the trailhead facility which, when analyzed, demonstrates a need for such limits.

* Monitor the indicators of solitude in Class II areas each 4th of July weekend during the high-use season. Numbers and types of encounters with other recreation users and other-than-recreation users will be documented. The resulting information will be compared with the standards for these indicators for Class I areas and past inventory information to determine if the current use and the trend are within the limits of acceptable change. If the trend is downward or the standards are exceeded by the documented use, appropriate actions will be considered to offset the declining condition. Any actions taken to correct substandard conditions by limiting or restricting visitor use will be communicated to the public, using the procedures outlined in 43 CFR 8560.1-1, Permits for and restrictions on use.

* Evaluate existing indicators and standards for campsite conditions and solitude on an annual basis to determine if their continued use is adequate for maintaining or achieving resource and social objectives.

* Provide pertinent information at the Mt. Trumbull Summit Trailhead facility to heighten visitor awareness about the experience opportunities that Class II areas offer as well as their expected behavior within these areas. Administrative contacts with visitors will also be maximized at this facility.

* Evaluate any special recreation permit applications for providing commercial services within the wildernesses in light of this plan's policies and guidelines for such services. Proposed services that are not compatible or can be accommodated elsewhere will not be authorized. Any commercial services that are permitted will be monitored for compliance with the permit and its stipulations. Additionally, the effects of permitted commercial services on resource and social settings will be monitored and an evaluation made following the use.

* Refuse to authorize the proposed upgrading of a livestock trail on the northern slope of Mt. Trumbull.

Managerial Setting Components

Cultural Resources

(The cultural resources overview described in the Introduction adequately portrays much of the existing values known and thought to be present within the wildernesses.)

Within the 4,683-acre Mt. Trumbull Class II area, roughly 808 acres were part of a cultural resource study done in the Mt. Trumbull region. The "Class II" cultural inventory was conducted in 1974 by the Museum of Northern Arizona (MNA) and was concentrated primarily on the summit and southwestern slope of the mountain. As a result, much of Opportunity Class II has not been formally inventoried.

The inventory involved walking transects within the study area and as such, not every acre was studied. The total area of the inventoried transects within Opportunity Class II is approximately 177 acres. Of the prehistoric sites documented by the survey within the wilderness, 8% were located in the Class II area. The types of sites documented ranged from artifact and debris scatters to small habitation sites used by the Virgin Anasazi.

Part of the analysis of the data generated by the MNA survey found that certain environmental settings were more apt to have higher densities of sites than were other environmental settings. The environmental setting found in the majority of the Class II area is not conducive to high site densities; however, because sites are present in this area and are outside the environmental setting thought to be the optimum, they are significant, in that their presence on the mountain and function within prehistoric cultural systems remains unexplained.

Two recorded historic sites in the Mt. Trumbull Class II area are thought to date from late 1800s. One, a small log cabin, is in the Coyote Spring area, while the other is a portion of a water flume in the Nixon Spring area.

Within the 9,053-acre Mt. Logan Class II area, there have been no previous cultural resource inventories. Vegetative treatments (chainings) were done on 350 acres prior to wilderness designation. The number, type, significance and condition of cultural properties within these treatment areas is unknown, although a portion of this area contains environmental settings found to be favorable to prehistoric site location.

The probability of site vandalism, either hobby-hunting or professional pot-hunting, is generally low in the Class II areas of Mt. Trumbull and Mt. Logan, due to difficult access, low site densities and the site types which are not conducive to producing saleable items. While site monitoring in this area is sporadic and infrequent, there is currently no known vandalism.

Currently, all sites in the Class II areas are subject to the natural forces of weathering. No excavation, stabilization or restoration of known sites has or is being proposed. No public use category sites are currently identified. No sites are presently listed on the National Register of Historic Places.

Assumptions

* While the MNA study established the presence of three prehistoric cultural periods in the Mt. Trumbull Class II area, further inventory and analysis will be necessary to fully and adequately describe and explain local and regional prehistory

* The priority for future study in the Mt. Trumbull Class II area will be lower than that of the Class III area but higher than the Class I area

* The priority for future inventory of the Mt. Logan Class II area is higher than that of the Class I or Class III areas

* The cultural properties in the Mt. Logan Class II area are of the same nature as those in the Mt. Trumbull Class II area

* The potential for vandalism of sites within the Class II areas will not increase during the life of this plan

Management Actions

* Conduct a cultural resource inventory in Opportunity Class II to obtain better baseline information. Record all newly discovered sites in AZSITE (the Arizona statewide data base)

* Evaluate all sites for assignment to the appropriate use category, as defined in Arizona BLM Manual Supplement 8111.23.

* Select key sites and periodically monitor for any adverse impacts

* Include past land treatment areas in future inventories to determine the impact of those past treatments on any cultural resources.

* Record the historic cabin at Coyote Spring and conduct a site stabilization feasibility study.

FIRE MANAGEMENT

> *"Current fire management philosophy recognizes that fire is not a recent aberration that the white man has visited upon the environment, but a natural part of our forest and rangeland ecosystems" (Stankey 1976).*

The results of natural ignition fire, left unsuppressed, depend on the environmental factors at a given time. Topography, the variety and density of fuels, a prolonged period of drought and hot, dry southwesterly winds can produce major fires. The same area in wetter and cooler climatic conditions may only produce small fires or none at all.

In the Class II areas, the natural role of small fires can contribute to maintaining natural conditions, reduce the buildup of ground fuel, create natural fuel breaks, create or improve habitat for wildlife and recycle nutrients important to the overall health of the system. Naturally occurring large fires have the potential to remove the climax or near-climax forests or woodlands in the Class II areas, replacing them through succession with a young, even-aged forest or sagebrush or mountain shrub in the woodland type.

Currently, fire prevention during periods of high fire hazard is accomplished through media notifications, public contact and off-site signing. Detection of fire is accomplished partly through the coordinated use of Remote Automated Weather Station (RAWS) information and the Automated Lightning Detection System (ALDS). Aerial surveillance and on-the-ground observations by fire personnel stationed nearby complete the detection process.

Since wilderness designation, the District's "Interim Guidance for Fire Suppression in Wilderness Areas" has directed fire suppression activities in the area. Generally, the guidance is aimed at containment or control with the minimum tool necessary to accomplish those objectives. Additionally, a Wilderness Resource Advisor is required to counsel the Incident Commander about wilderness resource values at risk.

Fire history has been documented in the area for 23 years. Typically, in the Mt. Trumbull Class II area, fire occurrence and intensity are low, however they are slightly higher than that of the Class I area.

Based on the more accurate documentation of the last 12 years, fire frequency in the Mt. Trumbull Class II area averages one fire each year with the average size of 1.1 acres. The largest fires documented were no more than six acres in size; due in part to fire suppression activities. Virtually all fires recorded in this Class II area have been on the southern, western and northern slopes; the majority in pinyon-juniper vegetative type.

Fire frequency in the Mt. Logan Class II area averages 0.33 fires each year for the past 12 years with an average size of 0.43 acres; a greater frequency than the Class I area but smaller fires on the average. The fires documented have been in higher elevations, widely dispersed in primarily pinyon-juniper woodland type.

No helispots have been officially identified. Few natural openings are favorable to safe helicopter landing operations in the Class II areas, however, some possibilities do exist in the southern Class II area of Mt. Logan. Sagebrush areas and the openings created by the Slide Mountain. Wildlife Catchment Road are possibilities. The overall size and accessibility of the Mt. Trumbull Wilderness are conducive to nonmotorized fire operations for low intensity, low risk fires. Much of the Mt. Logan Class II area is more remote and inaccessible and, as such, is difficult for both motorized and nonmotorized operations. Class II areas are better suited to aerial suppression methods such as air tankers and helicopter bucket work.

Fires within the Mt. Trumbull Class II area generally have not threatened adjacent private structures or livestock. Fire suppression activities have, on occasion and with permission, used private water sources. Structures at risk within the Mt. Trumbull Class II area are several miles of fence, any exposed portions of the Nixon and Coyote Springs developments or their pipelines (see Livestock Grazing) and the Witch Wildlife Catchment (see Wildlife).

Within the Mt. Logan Class II area, fire has the potential to threaten resources in Grand Canyon National Park, Lake Mead National Recreation Area and on the private land developments at Big Spring, adjacent to this class. Structures at risk within the Mt. Logan Class II areas are short portions of fence, any exposed portions of the Big Spring pipeline (see Livestock Grazing) and the Paws Pocket and Slide Mountain Wildlife Catchments (see Wildlife).

Prior to this planning effort, there was no prescription for allowing certain fires to follow their natural course.

(Refer to the Mt. Trumbull-Mt. Logan Fire Management Plan for further detail on fire behavior and proposed suppression techniques and prescriptions.)

Assumptions

* Fire is a natural part of this ecosystem

* Past fire suppression activities have not significantly changed the fire regime

* Larger fires are a part of natural plant succession

* Man-caused fire is not expected to be a concern

* Fires at or near opportunity class boundaries will require suppression strategies that consider the fire management objectives of both classes

* The more recreation-oriented direction of the Class II areas will require greater consideration of visitor attitudes toward wildfire in developing suppression strategies

Management Actions

* Write a fire management plan which defines the way fires will be handled in the Class II areas; whether they are managed under the observation fire strategy or the fire suppression strategy.

* Identify helispots, using in-house field knowledge and aerial photography. Identify sites that consist of natural openings or where the natural vegetative communities allow the landing of a helicopter for emergency fire fighting. No helispots are to be built or maintained within the Class II areas.

* Identify all structures and contiguous lands that will require special fire suppression protection in the fire management plan.

* Do an escaped fire analysis to determine appropriate suppression strategies on all fires that burn across opportunity class boundaries

* Coordinate with Grand Canyon National Park about fire suppression strategies in the Mt. Logan area.

* Maintain the excellent ecological condition and fire regime of the Mt. Trumbull Class II area by developing a fire plan which allows natural ignitions to be influenced by naturally occurring conditions. Study and document plant compositions typical of this area to provide baseline data for use in rehabilitating ecologically poor or fair sites having similar physical characteristics.

EMERGENCY SERVICES

Within the Arizona Strip District, and these two wildernesses, the Coconino and Mohave Sheriffs' offices have the primary responsibility for search and rescue operations. BLM's role has traditionally been one of cooperating with and actively supporting sheriff-directed search and rescue efforts, primarily in other areas of the district. The National Park Service, contiguous to much of Mt. Logan Wilderness to the east and south, carries out search and rescue operations in Grand Canyon National Park and Lake Mead National Recreation Area.

BLM recognizes an obligation to the public in cases where immediate action is necessary to provide aid to visitors who are lost, seriously ill or injured. Within the Class II areas of Mt. Trumbull and Mt. Logan, there are no cases of record where a search and rescue effort has been needed. These areas generally do not pose a high hazard to visitors, however the Hell's Hole area is potentially hazardous on its steep exposed slopes and ledges. This does increase the possibility of necessary search and rescue efforts in the future.

There is currently no cooperative agreement between BLM, NPS and the Mojave County Sheriff for search and rescue roles specific to the wildernesses. Subsequently, county personnel are unaware of BLM policies for search and rescue operations in wilderness areas. Additionally, there is no formal search and rescue plan to address operational procedure or to identify potential aerial hazards and helispots for use during operations.

While several BLM personnel are qualified Emergency Medical Technicians and all personnel are trained in first-aid practices, no one in the district has formal training in search and rescue techniques and strategies.

Assumptions

* The Mojave County Sheriff will continue to have lead responsibility for search and rescue operations within the wildernesses

* Search and rescue actions associated with the Class II areas of Mt. Trumbull and Mt. Logan Wildernesses are expected to be low to to none due to the low visitor use in these areas

* Any increases in visitation could also increase the need for search and rescue preparedness and capability, especially in the Hell's Hole area of Mt. Logan Wilderness

* Effective emergency service, while maintaining wilderness objectives, will require close coordination among the county sheriff's staff, NPS and BLM and a common understanding of each agency's roles and responsibilities

* BLM personnel may need to initiate search and rescue operations when emergencies arise and BLM is the first contact

* The remote nature of most of the Class II areas will increase the response time for ground operations

Management Actions

* Continue to guide BLM personnel in roles and responsibilities involving search and rescue with the Arizona Strip Search and Rescue Plan even though search and rescue operations in these areas will continue to be the responsibility of the Mohave County Sheriff's office. Review the District SAR Plan each year for adequacy regarding its application in these areas. No plan specific to the Mt. Trumbull and Mt. Logan Wildernesses is needed at this time.

* Include introductory methods for search and rescue in the annual first-aid training and refresher courses for all employees.

* Rehabilitate immediately after operations are finished any significant surface disturbances resulting from search and rescue efforts.

* Identify helispots and any aerial hazards using in-house field knowledge and aerial photography. Identify sites that consist of natural openings or places where the natural vegetative communities would allow the landing of a helicopter during search and rescue operations. No helispots are to be built or maintained within the Class II areas.

* Document any potential hazards to public safety during wilderness patrols and monitoring efforts. If possible, correct those identified as significant, otherwise, inform the public of such hazards at the trailhead facility at Nixon Flat.

LIVESTOCK GRAZING

The 13,736 acres that comprise the Class II areas of Mt. Trumbull and Mt. Logan are small portions of two livestock grazing allotments administered by BLM.

Tuweep Allotment

The 4,683 acres of Class II within Mt. Trumbull are part of 32,169 acres of summer pasture for the Tuweep Allotment. Five pastures on a rest rotation system make up the summer range. Portions of two of these pastures lie within this Class II area, each one receiving rest every other year.

Based on a 1983 grazing decision the active preference for the allotment is 1,980 AUMs on federal lands. The estimated active preference within this Class II area is 50 AUMs or 2.5 percent of the entire allotment.

Several range improvements exist within this Class II area (see Soil, Water, Air for water developments), however, no areas of previous vegetative manipulation (e.g., chainings, plow and seed) are present and none are currently proposed. The Nixon Spring and Coyote Spring developments and pipelines, as well as the Ponderosa/East Trumbull and Ponderosa/White Spring Division fences, are critical to the operation and management of this portion of the allotment and the allotment as a whole. Generally, ground vehicle access to these improvements is difficult to impossible and as such, inspection and maintenance is nonmotorized (see Appendix C for maintenance schedules). Past reconstruction activities on the Coyote Spring pipeline have resulted in portions of the original steel line being discarded above ground in the wilderness.

Because this area has no range study plots, utilization, trend and the apparent ecological condition are extrapolated from several nearby plots. The current vegetative composition in this class appears generally good as it relates to the potential natural plant communities (see Vegetation and Glossary). The estimated utilization ranges from none to as high as 25 percent, all within the standard identified for this indicator. The estimated ecological and range trend (static to slightly upward) is consistent with the resource setting objectives for the Class II area.

Big Spring Allotment

The 9,053 acres of Class II within Mt. Logan are part of approximately 28,990 acres of summer pasture for the Big Spring Allotment. Several pastures on a seasonally deferred rotation system make up the summer range. Portions of these pastures lie within this Class II area. Under the deferred system, these pastures may be rested two out of three seasons.

Based on a grazing decision made in 1980 the total active preference for the entire allotment is 2,410 AUMs on federal lands. The estimated active preference within this Class II area is 259 AUMs or 11 percent of the entire allotment.

Several range improvements and 350 acres of previous mechanical vegetative manipulation are in this Class II area. Re-treatment of the manipulated areas was proposed prior to wilderness designation. Currently, 82 acres of previously treated land near the southern wilderness boundary are showing signs of ecological instability in nonregeneration of ground cover and soil movement. The Big Spring pipeline, Big Spring Ponds #1 and #2, Boundary Pond, and portions of the old Forest Boundary, the Park Boundary and the Nixon/Cold fences are all critical to the operation and management of this portion of the allotment and the allotment as a whole.

Generally, ground vehicle access to the pipeline and ponds is possible along roadways existing prior to wilderness designation, although past use has been infrequent. A portion of the Upper Big Spring Road enters this Class II area but does not serve as access to any existing improvements and is currently barricaded and locked, along with two other access roads that eventually pass through Class II areas (see Livestock Grazing for further information on these roads). Inspection and maintenance proposed for the current year is nonmotorized (see Appendix C for maintenance schedules).

Because this area has no range study plots, utilization, trend and the apparent ecological condition are extrapolated from nearby plots. The current vegetative composition in this class appears good to excellent as it relates to the potential natural plant communities (see Vegetation and Glossary). However, there is a small area, mentioned above, near the Pas Pocket Wildlife Catchment that is in poor to fair ecological condition and, as such, is below the standard for this indicator. The estimated utilization ranges from none in the Hell's Hole area to slight use (6-20 percent) in most other areas and some isolated areas of heavier use. The overall estimated use is within the standard for this indicator. Generally, the estimated ecological and range trend (static) is consistent with the resource setting objectives for the Class II area--except for the catchment area, which shows downward range trend.

Assumptions

* Under current grazing management systems operating within the constraints of wilderness, ecological conditions will improve slowly over time

* Utilization levels and patterns of use will remain generally as they were under pre-wilderness conditions

* Ecological and range trend will remain generally static or slightly upward over most of the Class II areas; however, the areas of downward trend in Mt. Logan Wilderness will not likely recover naturally during the life of this plan

* Motorized vehicles and mechanized equipment may be needed at times during the life of the plan to accomplish maintenance operations

* Due to the maintenance requirements of livestock developments, the need for motorized/mechanized maintenance will need to be analyzed on an annual basis

* Extrapolated existing range study plot information, periodic allotment inspections and actual use records will be sufficient to properly analyze changes in overall ecological conditions within the wilderness

* More frequent studies may be needed in substandard areas to more accurately monitor the ecological condition and trend

Management Actions

* Manage the livestock program in Class II to favor improving ecological condition and trend rather than range (forage) condition and trend.

* Coordinate with Grand Canyon National Park for removal of the boundary fence between the Park and the BLM in the Mt. Logan Class II area.

* Remove all abandoned or spent materials used for livestock range improvements. Since most of these abandoned materials are very old and are not the result of neglect on the part of the current grazing permittee, BLM will focus efforts on removing these materials through the uses of volunteers.

* Maintain range improvements using the minimum tool concept. For the 1989 - 90 grazing year there is no planned need to use motorized equipment for range improvement maintenance or inspection.

* When project reconstruction is needed, BLM will evaluate the possibility of removal from the wilderness. When new range improvements are needed on nearby nonwilderness lands, they will be planned and placed in such a manner that will discourage higher than normal utilization in the wilderness.

* Put the Pas Pocket area in temporary non-use status for livestock grazing. As livestock are allowed to graze in the area, utilize their presence in a manner that maximizes the ability of the area to improve ecological condition and trend.

INSECTS AND DISEASE

The relative isolation of the ponderosa pine forest of the Uinkaret Mountains region has protected it from the insect outbreaks that have plagued the other southwestern pine forests in recent years, most notably the North Kaibab. While infestations have not been a problem in the area, several forest pests are present endemically.

Within the 903 acres of ponderosa pine in the Class II areas of Mt. Trumbull and Mt. Logan are two endemic insects capable of damaging some or all of the forest. The Mountain Pine Beetle (Dendroctonus ponderosae) is endemic in all ponderosa stands. It normally attacks only old, decadent trees, but in epidemic proportions will attack and kill young, healthy trees. An epidemic could be triggered by the sudden death of large numbers of trees, such as that resulting from fire. The beetles would breed in the dead trees and attack surrounding green trees the following year.

Another endemic insect is the Southwest Pine Tip Moth (Rhyacionia neomexicana). This species of moth attacks 4-8 foot seedlings, killing the terminal shoot. Repeated attacks will weaken and severely deform a young tree. In contrast to most forest pests, this moth attacks on the most healthy and vigorous seedlings. Once a seedling reaches nine feet in height, it has exceeded the flight ceiling of the heavy, lumbering adult moth. The moth is quite common in the forest of the Uinkaret Mountains, although rarely above 7200 feet in elevation. Much of the forested portions of the Class II areas are within the optimum elevation range; their elevations generally being below 7200 feet.

The 10,503 acres of pinyon-juniper woodland found within the Class II areas are relatively free of damaging Insects species. The Pinyon Needle Scale (Matsucoccus acalyptus) occurs rarely in the woodlands of the Uinkaret Mountains; however, when it is present it feeds on tree sap and weakens trees by killing needles that are older than one year.

Two potential sources of disease are in the forest and woodland vegetative types and both are parasites. Dwarf Mistletoe (Arceuthobium vaginatum subsp. cryptopodum) infects ponderosa pine trees of all age classes and may kill trees up to pole size within a few years of infection. Older trees are killed more slowly; from the top down, until all branches are dead. One small pocket of infected trees is documented within one mile of the wilderness.

True Mistletoe (Phoradendron subsp.), typically in pinyon-juniper woodlands, is the largest killer of juniper in the region. Only the golden fruiting bodies are visible externally with the tendrils located beneath the bark. It is not known to be a problem at this time in the woodlands of the Class II areas.

Assumptions

* Cyclic occurrences of endemic insect and/or disease infestations are a natural part of forest and woodland ecosystems

* Epidemic occurrences of insect and/or disease within wilderness may pose a threat to valuable wood resources outside the wilderness

* Epidemic occurrences of Mountain Pine Beetle resulting from human causes (i.e., occurrence of large fire traced to human ignition) will not be considered natural infestations

* Dwarf Mistletoe (known to grow in the Mt. Logan area) will not, in the near future, threaten the forested portion of the Class II area

* Treatment or control measures needed in areas at or near opportunity class boundaries will require strategies that consider the management objectives of both classes

* The more recreation oriented direction of the Class II area will require greater consideration of visitor attitudes toward insects and disease prior to initiating control or treatment

Management Actions

* Monitor the Class II area for insect and disease infestations. Observe any infestations that break out to determine both the on- and off-wilderness effects. Evaluate on-site effects on a case-by-case basis. Control off-site impacts. Observe impacts from non-wilderness infestations on wilderness and take action on a case-by-case basis.

* Plan no programmatic environmental analysis for emergency responses to insect or disease outbreaks.

* Give all non-emergency control of insects or disease a 30-day public review before any action is taken.

* Write no plan to control True Mistletoe in the Pinyon Juniper woodland areas in Class II.

ADMINISTRATION

The Mt. Trumbull and Mt. Logan Wildernesses are administered under the authority and provision of the Federal Land Policy and Management Act of 1976, the Wilderness Act of 1964, and the Arizona Wilderness Act of 1984. Procedures for the management of the public lands designated as wilderness in these areas are found in Management of Designated Wilderness Areas (43 CFR Part 8560). Guidance for management of the wilderness resource is found in the BLM Manual Section 8560.

The wildernesses are administered by the Vermillion Resource Area of the Arizona Strip District of the Bureau of Land Management. A portion of Mt. Logan Wilderness lies within the Shivwits Resource Area of the same district; however, the lead responsibility for wilderness management is given the Vermillion Resource Area. The Bureau also actively manages other programs within these areas, such as recreation, wildlife, cultural resources, range, soils and watershed.

Administrative responsibilities are vested with the Vermillion Resource Area Manager and carried out by the resource area outdoor recreation planner, with program technical guidance and assistance from the district wilderness coordinator. On-the-ground management activities, such as visitor contact, visitor use data collection, informational signing and surveillance are accomplished primarily by the resource area outdoor recreation planner. The frequency of these activities in the more remote portions of Class II areas is very low, however, in the more accessible portions the frequency is greater. Currently, seasonal employees or volunteers have not been extensively used to assist in accomplishing such activities.

Prior to August 1988, enforcement of the provisions of 43 CFR Part 8560.1-2, Prohibited Acts or any other laws or regulations pertinent to public lands were handled by the appropriate state, county or federal agency possessing federal law enforcement authority. The process was cumbersome and was not conducive to timely response to violations. As of August, 1988, the Arizona Strip District has employed a full-time law enforcement ranger. While timely response to violations will be improved, the enormous land area to be covered by one ranger still somewhat encumbers the ability to ensure better compliance with the public land laws.

A portion of one of the Class II areas of Mt. Logan Wilderness is contiguous to national park service lands managed by Grand Canyon National Park and Lake Mead National Recreation Area. The current management direction for most of these lands, which are administratively endorsed for wilderness designation, is for backcountry, primitive recreation and other purposes--compatible with the Bureau's wilderness management direction. The majority of the remaining Class II areas are contiguous to public lands within Class I and III areas of the wildernesses and nonwilderness public lands.

While there are no private inholdings within the Class II areas, a portion of the Mt. Trumbull Class II is contiguous to 160 acres of private land along the northern wilderness boundary, the land utilized primarily for intensive livestock grazing. Shortly after wilderness designation, all State of Arizona lands entirely or partially within these wildernesses were reconveyed to the United States of America.

Public access to these areas is not generally denied by adjacent land owners. Public access is discussed further in the Administration section, Opportunity Class III, the transitional class.

Administrative radio communication capability from the Class II areas is currently very good (see Administration, Class III for more detail). Currently, there is no direct radio contact from these areas with state or county law enforcement authorities.

Due to the remote nature of most of the Class II areas and the relative absence of roadways or vehicle trails, off-highway vehicle violations are not a problem. The potential does exist, however, for off-highway vehicle violations at five points where pre-designation roadways enter the Mt. Logan Class II areas. Currently, the Upper Big Spring Road and the Slide Mountain Wildlife Catchment Road are barricaded, signed and locked (see Administration, Class III for more detail). The remaining three access points--more remote and difficult to use--are now barricaded.

The Class II area of Mt. Trumbull contains the majority of the Mt. Trumbull Summit Trail (see Recreation) which is currently not maintained and does not meet new BLM standards for trails. No other structures, other than range and wildlife developments (see Livestock Grazing and Wildlife), exist within the Class II areas. The number and location of these developments is within the LAC standard of no more than three developments per 500-acre area in Class II.

Prior to wilderness designation, motorized travel for administrative (BLM, AG&FD, USFWS) purposes in these areas consisted of infrequent use of both ground vehicles and helicopters primarily for fire suppression, range and wildlife management. With wilderness designation came restrictions on motorized/mechanized equipment use, including administrative use. To properly administer such uses, the Arizona Strip District instituted a policy and procedure (still in effect) for requests of motorized/mechanized equipment use. The policy requires a formal request by employees to the District Manager for permission to use such equipment for administrative purposes. The procedure for authorization requires documenting the date proposed for equipment use, the type of equipment proposed for use, the purpose of the use and justification of the proposed use which includes conducting a thorough analysis that considers the need (minimum tool) as well as possible alternative methods and the reasons they cannot be employed.

Shortly after the wilderness designations of 1984, the Federal Aviation Administration (FAA), in cooperation with the Department of Interior, issued an advisory concerning wilderness overflights by all classes of aircraft. The FAA advises a minimum 2,000 feet above ground level (AGL) for all aircraft over statutory wilderness. BLM has adopted, as policy, this altitude for all administrative flights. Special exceptions to the 2,000 feet AGL are possible for emergency situations or under special circumstances required in the administration of wilderness. The procedure mentioned in the previous paragraph is used in such cases.

As part of the cooperative advisory, BLM recently began a compliance program for wilderness overflights. The BLM standard incident record form is used each time commercial, private or military aircraft are sighted below 2,000 feet over wilderness.

Currently, there are no special regulations, restrictions or requirements imposed on visitors beyond the existing laws, regulations and policies for management of wilderness and visitor services.

Assumptions

* Funding and personnel (including seasonal employees or volunteers) will be available to meet the desired objectives of this plan for the Class II areas

* Management practices and direction on most of the contiguous National Park Service lands will continue to be compatible with wilderness management in these areas

* Maintenance of existing structures (range and/or wildlife) may require the occasional use of motorized or mechanized means

* All requests for BLM administrative use of motorized/mechanized equipment in these areas will continue to be closely scrutinized with careful application of the minimum tool policy and the environmental assessment process

* Significant increases in visitation to these areas may result in a need for visitor use restrictions and/or law enforcement

* The current law enforcement process will continue to be somewhat cumbersome

* Increases in visitation may result in off-highway vehicle violations at access points not currently barricaded

* The Mt. Trumbull Summit Trail is currently substandard

Management Actions

* Utilize, where appropriate, volunteers and seasonal employees (fire and resource) to accomplish the various actions in this plan. All personnel of this type will be supervised by and their efforts coordinated through the area outdoor recreation planner. Volunteers and seasonal employees will generally monitor and do on-the-ground project work.

* Carry out law enforcement responsibilities using the Arizona Strip District Ranger. Other BLM personnel and volunteers will be involved in law enforcement activities only to the extent of reporting incidents observed. Volunteers do not initiate contact with users in such situations.

* Continue the current Arizona Strip District policy and procedure for administrative use of motorized vehicles and/or mechanized equipment within wildernesses.

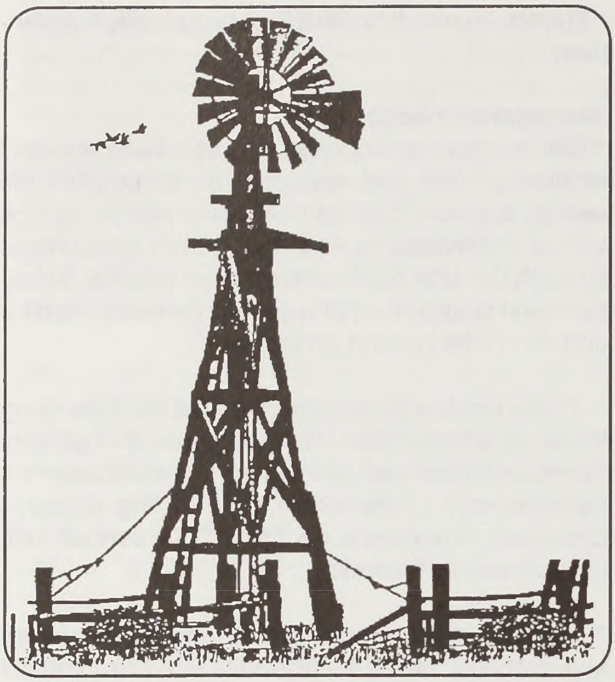
* Document each incident of aircraft below 2,000 feet AGL over wilderness on Incident Record, Form 8360-4. Keep each Incident Record in the appropriate wilderness file and forward a copy through district line managers to the Arizona State Office.

* Remove all structures and related materials within the wilderness that are abandoned or structures having no historical value. Specifically, abandoned and discarded portions of the Coyote Spring pipeline will be removed. Nonmotorized means will be used to clean up this particular area.

* Barricade and sign all roadways entering the wilderness. Those roadways that may be needed for access during emergency or fire operations or for an authorized motor vehicle use by administrative personnel or livestock grazing permittees will be locked. All others will be permanently closed.

* Maintain the Mt. Trumbull Summit Trail to ensure safe travel by visitors. Maintenance will include studying the trail and identifying specific problem areas where corrective action (realignments, increasing tread width, reducing grades and replacing and/or installing water bars) is needed.

* Road maintenance is rarely authorized. Upper Big Springs Road will be barricaded. As the opportunity arises it will be revegetated by non-motorized means. The Slide Mountain wildlife road corridor will be allowed to revegetate naturally. Both corridors will be used as natural fire breaks for the life of this plan.



OPPORTUNITY CLASS III

Objectives

(A total of 3,305 acres, 1,280 in Mt. Trumbull and 2,025 acres in Mt. Logan, make up Opportunity Class III. Refer to Map A to see the allocation of this class. The following descriptions of the resource, social and managerial settings serve as the objectives that BLM will achieve and/or maintain within the Opportunity Class III areas.)

Resource Setting:

Opportunity Class III, the area of transition between nonwilderness lands and the wilderness core, consists of slightly modified natural environments. The soil, water, vegetation and wildlife components of the ecosystem within the class are stabilizing or stable and natural processes which drive them operate fairly free of man-induced controls. These processes are sometimes moderately affected by the actions of some users. Occasionally, visitors impact soils and vegetation in camp areas and along travel routes. Typically, these impacts are temporary disturbances that recover on an annual basis, however some minor disturbances can persist from year to year. The persistent impacts are generally apparent to most visitors. Impacts from other resource users, while few in number, are generally permanent and apparent to most visitors who happen upon them.

Social Setting:

The area provides visitors with moderate opportunities for solitude and isolation from others. Encounters with other users, both visitor and other resource users, are low in the off-season to moderate during the primary season of use both in camp and while traveling. There is a moderate likelihood for visitors to travel unregulated in and interact with the natural environment. Opportunities to utilize primitive outdoor skills and experience challenge, self-reliance and risk are also moderate.

Managerial Setting:

Management focuses on providing moderate primitive recreation experience settings, which must coexist with other nonconforming but acceptable uses, while emphasizing the maintenance and/or enhancement of the natural ecosystem and its processes. To the maximum extent feasible, other ongoing BLM programs in the area are managed to conform with the wilderness goals and the resource and social objectives for this class. Management strives to use methods which contribute to achieving, maintaining, or enhancing the desired conditions for the area while fulfilling other program responsibilities.

Specific Policies, Guidelines & Standards

(See Table 5 for a comparison of these policies and guidelines with those of Opportunity Classes I and II)

Resource Setting:

WILDLIFE

Wildlife is an important component of the Class III areas. Wildlife managers will endeavor to achieve their goals and objectives primarily through actions taking place outside the Class III areas--promoting the continuation of natural processes. To the extent possible, wildlife populations, including predatory species, within the area are allowed to interact naturally.

Transplants, reintroductions and habitat developments will be considered when, 1) the need to do so in Class III areas is shown to be consistent with the wilderness objectives for this class and, 2) such actions are achieved using the minimum tool. Since the resource objectives for the Class III areas are conducive to natural protection of threatened and endangered species of wildlife, management of such species will be the minimum necessary to comply with the Endangered Species Act. In riparian/wetland areas, restoration programs or practices can be considered for people-caused degradation or when there is a clear showing of future benefits to the wilderness resource setting.

Wildlife management activities that are necessary within the Class III areas will be carried out using the minimum tool. BLM strongly encourages minimizing the number of wildlife or habitat monitoring overflights and maximizing the altitude of those that are clearly needed. However, where no reasonable alternatives exist, the occasional, short term use of helicopter landings or use of ground vehicles may be authorized.

Hunting and trapping are permitted, subject to applicable state and federal laws and regulations. If these activities begin to cause unacceptable change to the desired wilderness conditions, coordination efforts between BLM and AG&FD will determine both the cause of the change and the most appropriate actions to restore conditions.

Social Setting:

RECREATION

Direct on-site management of visitors frequently occurs during the high-use season, however, rules and regulations pertaining to visitor behavior are usually communicated outside the area. On-site strategies are used where significant problems demonstrate a need for law enforcement or greater communication to protect resources, private property, or maintain social setting standards. When less restrictive measures have failed to achieve desired resource and social objectives, formal regulations, restrictions, orders and/or permits are considered.

During the high-use season, administrative contact with visitors occurs frequently, usually during patrols, monitoring studies, responses to emergencies or by invitation. The duration of these contacts can be short or lengthy.

Informal, off-site user awareness methods are the primary thrust of visitor use management. Formal methods are employed when informal methods fail to achieve desired results. Long-term signing is used in areas when the presence of signs will contribute to achieving resource and social objectives on substandard sites. The level of signing is the minimum necessary to achieve the objectives. Light- to moderate-use trails are only constructed as a method of protecting resources, ensuring public safety or directing visitor use patterns.

Use authorizations for commercial services to operate in this area are considered when the services provided are necessary for realizing recreational or wilderness experiences. Applications for special recreation permits for outfitting or guiding within Class III areas are analyzed to determine if the proposed use is appropriate for the class or if other lands would better serve the intended purpose. Such permitted uses are encouraged to use off-site base camps; however, permanent, primitive camps utilizing minimum impact practices are considered where no other alternatives exist. The required special recreation permit contains stipulations appropriate for maintaining the area's resource and social settings.

Managerial Setting:

CULTURAL RESOURCES

Most cultural resources will remain in an undisturbed state, subject only to forces of nature. Any proposal for legitimate scientific study will be thoroughly scrutinized to ensure that the project will not conflict with or compromise the resource and social setting for Class III, and it is necessary to preserve significant cultural resource information. Surface disturbing cultural resource management activities will be discouraged if data can be obtained in other areas or unless the activity would benefit recreation opportunities. Any undertaking including data recovery or stabilization, which may affect a cultural property meeting the criteria for inclusion in the NRHP, requires compliance with Section 106 of the National Historic Preservation Act and 36 CFR 800.

Appropriate sites will be allocated to public use. Site interpretation may be done to enhance recreation experience opportunities. Field inventories and monitoring of known sites within Opportunity Class III area are generally first priority ahead of Classes II and I. Within Class III the priority inventory will be in those areas of past human influences.

Known cultural resources are managed and accorded protection under the provisions of the Antiquities Act of 1906, the Historic Sites Act of 1935, Executive Order 11593, the National Historic Preservation Act of 1966, as amended, the Archeological Resources Protection Act of 1979 and the Federal Land Policy and Management Act of 1976 with strong consideration given to the resource and social objectives of the area. Structures having historical significance will remain in the area.

FIRE

Management of fire strives toward allowing for the role of natural fire primarily by aggressively attacking and controlling natural and human-caused ignitions on ecologically unstable sites. The Fire Management Plan (Appendix A) specifically addresses how this will be achieved. All fires that threaten human life or property within the wilderness or life, property or resources outside the wilderness are controlled.

Suppression response on sites which are stable or stabilizing is the same as that of Class II for natural and human-caused ignitions. When containment or control action is needed on stable or stabilizing sites, techniques are used that result in the least possible surface and vegetative disturbance. On unstable sites where the escaped fire analysis determines the need, heavy equipment and other motorized use is allowed.

Following any fire within the area, an analysis is made to determine the appropriate rehabilitation measures needed to protect sensitive soils or contribute to the natural stabilization of ecological components (i.e., reseeding fire lines, planting seedlings). Prescribed fires ignited by BLM personnel are considered for purposes of fire regime restoration only. Prescribed natural fires are allowed.

EMERGENCY SERVICES

Search and rescue responsibilities and procedures are clarified and coordinated with Mohave County authorities and the National Park Service, Grand Canyon National Park, to provide timely and appropriate response where life-threatening or visitor safety situations occur. All permanent and seasonal BLM personnel who work in the Mt. Trumbull-Mt. Logan area are to be familiar with any procedures prescribed in a search and rescue plan.

A plan establishes strict criteria under which helicopter use will be allowed for life-threatening situations. Helispots are not pre-constructed but are located and cleared when they are needed. Natural clearings conducive to safe helicopter landings are to be identified in a plan.

LIVESTOCK GRAZING

Livestock grazing numbers are generally managed at the level of active preference in place at the time of wilderness designation. Any increases and/or decreases to these numbers are considered using guidance found in AZ-IM-87-55 and WO-IM-87-142. Class of livestock changes are considered where adverse affects or changes to ecological objectives would not result.

Access by motorized vehicle to improvements for maintenance purposes is considered primarily where such use occurred previous to wilderness designation. Maintenance schedules (Appendix C) strive to conform as much as possible with the resource and social objectives for the area. Motorized access for maintenance on any new structures constructed after designation can be considered where no other alternative exists. A list of all existing range developments within the area is to be compiled, the permittee(s) notified of both the nonmotorized and motorized maintenance requirements, and the maintenance decision made a condition of the AMP and/or the grazing permit.

Construction of new structures is considered when such structures are needed to protect wilderness and/or range resources. As any existing structures require major reconstruction or costly maintenance, consideration is given to relocating the development outside the wilderness so long as its intended purpose can continue to be served in a new location. Prescribed burning is used only in areas where this method was previously used or when the primary purpose is to correct human-caused ecological instability.

INSECTS AND DISEASE

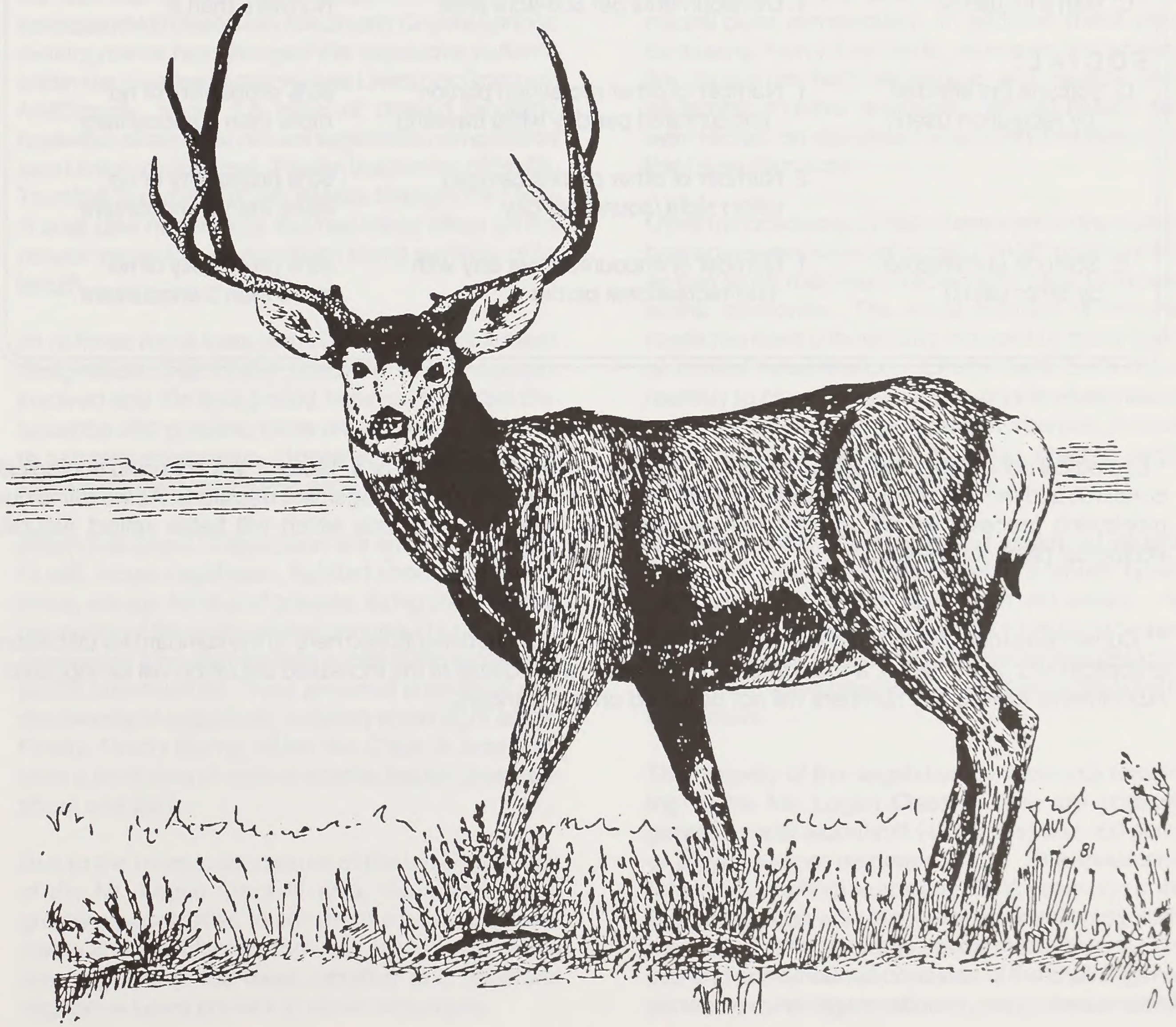
Treatments for control are considered where outbreaks within the wilderness threaten valuable resources on adjacent nonwilderness lands or, where the outbreak is human-caused and the trend is toward exceeding the area's ecological standards.

Plans for the control of insects and disease stress the use of natural, biological techniques. Applications can go beyond the problem area to control spread. Programs developed to control insects and/or disease must be approved prior to implementation by the Director of BLM.

ADMINISTRATION

Proposals are considered for the scientific study of resources, provided they depend on a wilderness setting, they provide information that contributes to better management of wilderness; and the study methods and timing are compatible with resource and social standards.

Building new administrative structures, including communication facilities, is considered when no other reasonable alternative exists to accomplish administrative purposes. Proposed structures, other than administrative, are considered only when a structure is proven necessary to protect range and/or wilderness resources. As existing administrative or other structures require major reconstruction or costly maintenance, consideration is given to relocating the development outside the wilderness, so long as the intended purpose of the development can continue to be served in the new location.



Class III Indicators and Standards

(See Table 6 for comparison of these Standards with those of Classes I and II)

FACTOR	INDICATOR	STANDARD
RESOURCE:		
A. Campsite Conditions	1. Number of campsites per 500-acre area	No more than 5 sites
	2. Number of impacted sites/500-acre area exceeding a given impact rating	Highly impacted (0) Moderately impacted (2) Minimally impacted (3)
B. Vegetative Condition	1. Overall ecological condition of potential natural plant communities *	Not below fair
	2. Percent utilization of key forage **	No more than 35%
C. Man's Influence	1. Developments per 500-acre area	No more than 5
SOCIAL:		
D. Solitude (as affected by recreation users)	1. Number of other recreation partion encountered per day while traveling	80% probability of no more than 4 encounters
	2. Number of other parties camped within sight/sound per day	90% probability of no more than 3 encounters
E. Solitude (as affected by other users)	1. Number of encounters per day with non-recreational parties	80% probability of no more than 3 encounters

* Ecological condition is not a true "indicator;" it is more of a rating system or a "factor." We are using ecological condition and the standards as guidelines to direct field evaluations and management decisions. As we refine our monitoring process, we will identify key vegetative species and standards which will better reflect natural, ecological plant composition.

** Current livestock utilization levels are generally below the standard mentioned here. If the standard for utilization is approached or exceeded, a more in-depth evaluation of the cause of the increased utilization will be triggered. Adjustments to livestock numbers will not be based on this standard.

Existing Situation, Assumptions, and Management Actions

Resource Setting Components

VEGETATION

Due to the nature of most of the terrain and the undesirability of the vegetation for commercial exploitation, the majority of the vegetative composition reflects that of the potential natural plant communities. The relatively undisturbed natural pinyon-juniper woodland that makes up most of the area (1,160 acres) is typically unmodified by human activities.

While the area is predominantly undisturbed, several locations show evidence of vegetative change due to the activities of man. Past installation of pipelines associated with the Nixon, Orson and Coyote Springs developments has changed the vegetative patterns within the pipeline corridors (see Livestock Grazing). Additionally, about 1.5 miles of cleared fenceline have also altered the natural vegetative composition (see Livestock Grazing). Finally, the portion of the Mt. Trumbull Summit Trail that passes through the Class III area (see Recreation) has had minor effect on the natural vegetative composition along portions of its length.

All of these areas were disturbed prior to wilderness designation. Due to the relatively small acreages involved and the time period between the initial disturbance and present, these areas have proceeded to naturally revegetate. However, the disturbed areas are currently in a lower seral stage.

Within this Class III woodland are smaller quantities of oak, locust sagebrush, isolated ponderosa specimens, shrubs, forbs and grasses. Along the southern boundary of the area several pockets (111 acres) of ponderosa pine also contain a mix of the aforementioned communities. There are small pockets of predominantly of sagebrush, totalling some eight acres. Finally, Orson Spring within the Class III area supports a small area of wetland species (aspen, grasses)--about one acre.

Due to the more subtle nature of the terrain in much of the Mt. Logan Class III area, there have been greater opportunities to construct access, improvements and exploit resources. As such, much of this area represents the most modified and unnatural vegetative types present in either wilderness.

As early as the 1870s, pioneers exploited timber resources in the area. The fast growing southern Utah pioneer communities represented a growing demand for these products for several decades. Early timber practices were generally not environmentally sound and not conducive to revegetation or reforestation. When the timber resource was exhausted the small portable mills were simply moved to a new location.

Under Forest Service management, commercial logging in the form of small timber sales led to some clear cutting, as evidenced by areas of dense, even-age young trees.

Additional problems resulted when thinning contracts were carried out in the early 1970s on 400 areas. The contracts did not provide for removing or burning the thinned trees and, as a result, large amounts of slash remain to this day. The slash and the density of the remaining live, even-age trees have encumbered the opportunity for this area to return to its potential natural plant composition. In addition, these sites, containing heavy fuel loads, represent an extreme fire hazard to both wilderness and nearby non-wilderness multiple resources. Wildlife habitat and even recreation visitors are potentially threatened by this hazardous area.

Other minor sources of disturbance within the conifer type are several very old logging "skid" roads as well as two small roadways traditionally used to access scenic overlooks. The visual contrast of the skid roads has been substantially reduced by many years of natural rehabilitation. Efforts have been made recently to close the other roadways to allow natural processes to revegetate these disturbances. A small portion of pasture fence has also created minor changes in vegetation in this area.

Dispersed within the conifer and woodland vegetative types are five smaller areas of shrub types, composed primarily of sagebrush (86 acres). An additional 79 acres of shrub lands have been treated using mechanical means prior to wilderness designation. These areas have almost completely returned to sagebrush.

The majority of the vegetative components remaining in the Mt. Logan Class III area are primarily pinyon-juniper woodland (430 acres) and 166 acres of pinyon-juniper treatment areas. The treatments (chaining or railing) were done 20-30 years ago in the Big Spring area with the intent of establishing commercially desirable forage species for livestock. The age and unmaintained condition of the chainings has allowed natural regeneration of young, denser stands of pinyon-juniper and sagebrush to re-invade the site and return it closer to its potential natural plant composition.

In addition to the treated areas, the Big Spring area contains the greatest concentration of improvements and developments (see Livestock Grazing) in the form of roadways (including the open road corridor--see Administration), private land development, fences and pipelines. While the individual disturbances to vegetation by these man-made features are generally not significant, the cumulative affect is noticeable.

The remaining vegetative type in the Mt. Logan Class III area are several small pockets of wetland vegetation, the foremost area being the Big Spring area on private land. This developed spring provides water to portions of the Big Spring Allotment, both on- and off-wilderness (see Soil, Water, Air) and to a private lodge in Whitmore Canyon. Surplus water at the spring site continues to irrigate the natural wetland vegetation.

Because visitation in both the Mt. Trumbull and Mt. Logan Class III areas has, in the past been, greater than in the Class I and II areas, natural plant succession interruptions by visitors are evident in some of the areas where car camping traditionally occurred. Natural recovery of ground cover has not happened on several sites in the Nixon Flat area or the Mt. Logan Overlook area. Additionally, there is a greater occurrence of tree damage and loss of dead and down wood in those areas.

The Class III areas do not contain any plant species known to be threatened, endangered or sensitive.

Assumptions

* The majority of the Class III area of Mt. Trumbull is close enough to its potential natural plant composition to serve as a baseline for other areas having similar characteristics of soil, slope, precipitation and vegetation

* The apparent excellent ecological condition of the conifer type in the Class I area of Mt. Trumbull can serve as a baseline for the potential natural community of the Mt. Logan conifer area

* The only natural interruptions to plant succession that may be expected during the life of the plan would originate from processes of fire, insects or disease

* The continued use of popular campsites in the future will continue affect natural succession on a localized basis

* Left unhampered, the areas of vegetative disturbance (i.e. chainings, pipelines, fences) will continue to progress toward their potential natural plant composition

* Any major reconstruction efforts carried out for the existing pipelines and/or the summit trail will affect vegetation on a localized basis

* Administrative response to natural phenomenon such as insects (e.g. control of insects where valuable resources outside are threatened from an infestation within wilderness) could cause an unnatural interruption to the natural succession within the Class II areas

* Natural rehabilitation of the Mt. Logan conifer type will, without fire or human influence, take many generations

* The existing situation in the Mt. Logan conifer type will continue to be a fire hazard to wilderness and nonwilderness resources as well as a potential hazard to visitors and wildlife

Management Actions

* Monitor the indicators of campsite condition in Class III areas each fall following the high-use season. Inventory all campsites found using the impact rating worksheet and the compare results against the Class III standards. Clean up or completely remove campsites when the standards are exceeded. Evaluate all campsites for their ability to rehabilitate naturally. Close all car campsites if they continue to exceed the standards established for Class III.

* Allow the Coyote Spring pipeline corridor to revegetate naturally. Pile slash on Nixon and Orson Spring pipeline corridors to encourage less runoff and more rapid natural revegetation. Solicit volunteers to reseed with native species as the opportunity arises.

* Maintain fences generally by non-motorized means and create no new vegetative disturbance.

* Road maintenance is not generally allowed. As the opportunity arises, revegetate the already barricaded Upper Big Springs Road using non-motorized means. Allow the barricaded Slide Mountain Wildlife Catchment and Lower Big Spring Road corridors to revegetate naturally. Utilize each road corridor as natural fire breaks for the life of this plan.

* Monitor grazing management annually to insure that ecological conditions are not degrading. Focus

the Fire Management Plan on maintenance or improvement of ecological condition as it is developed. When reviewing and evaluating the existing grazing management plans, make areas of substandard ecological condition the primary focus.

* Allow fire to play its natural role as much as possible in order to reestablish a more natural vegetative pattern in areas of previous vegetative manipulation. Manage livestock grazing to encourage the reestablishment of a better ecological condition.

* Reduce the unnaturally high fuel build-up in the Mt. Logan ponderosa pine area. Write a burn prescription and use fire as the primary tool for reducing the fuel load. Establish temporary restrictions on campfires during high hazard seasons until the fire hazard is lowered. Use the Mt. Trumbull Class I ponderosa pine area as the desired vegetative model.

SOIL, WATER, AIR

Soil

The predominant soil type (913 acres) in the Mt. Trumbull Class III area is Siesta very cobbly clay loam on 15-45% slopes. It is a deep, well drained soil with a slight to moderate erosion hazard. There are another 230 acres of this same soil type on the 1-10% slopes in portions along the southern wilderness boundary. Five other soil types are in small pockets along the southern and eastern wilderness boundaries.

There are 10 acres of the Showlow very cobbly silty clay loam on the 12-35% slopes and 40 acres of Showlow very cobbly clay loam on 4-16% slopes. These two soils are both deep, well drained soils, however they have an erosion hazard that ranges from very severe to moderate, respectively.

Another soil type in the Mt. Trumbull Class III area is on 50 acres of Wukoki Variant-Lomaki Cold Variant complex. On 15-60% slopes near the cinder cone on the south rim of the basalt cap, these deep soils of extremely gravelly loam overlay cinders below and have a moderate to high erosion hazard.

Two other soil types in small acreages are Sponseller gravelly loam (20 acres) and Rune loam (17 acres)--in the Nixon Flat area. Both are deep, well drained and found on very gentle slopes. The Sponseller soil has an erosion hazard of slight to high while the Rune is slight to moderate.

Recent soil survey information for the majority of the Mt. Logan Wilderness is not currently available. However, portions of the Class III area north of the old Forest Service boundary have been surveyed. From this information, it appears that much of the Mt. Logan Class III area contains soils similar to those mentioned above. Apparently, the majority of the Mt. Logan Class III area consists of the Siesta very cobbly clay loam on 1-10% and 15-45% slopes with Wukoki Variant-Lomaki Cold Variant complex occurring on the 2-60% slopes of the Slide Mountain and Big Spring area.

A small area south of Big Spring is Lynx silt loam--a deep, well drained soil on flood plains of 0-3% slopes.

Currently, there is almost no soil instability within the majority of the Class III areas. However, portions of the Mt. Trumbull Summit Trail as it passes though this opportunity class are showing signs of water erosion. Some of the original wooden water bars are either gone or backfilled with sediments.

Water

Orson Spring is a perennial water source on the northern slope of Mt. Trumbull--developed, accessible and currently supplying water to livestock at troughs outside the wilderness. All water from this spring is transported via buried pipeline out of the wilderness, leaving no surface flow. The spring does not have a Arizona State water rights filing on it. The water has been tested--showing excellent chemical quality as measured by the Total Dissolved Solids (TDS) levels.

Portions of the Coyote and Nixon Springs pipelines pass through Mt. Trumbull Class III areas also. The Nixon Spring pipeline provides potable water for recreational use at a spigot just outside the wilderness.

The perennial water source in the Mt. Logan Class III area is Big Spring, on private land one mile west of Petty Knoll. Developed for livestock watering purposes, its water is piped to watering locations both in and out of the wilderness. The pipelines across public lands were approved under the authority of Section 4 of the Taylor Grazing Act. However, in recent years the use of the water system has expanded to include domestic use outside the wilderness. Currently, this spring has no Arizona State water rights filing on record.

Ephemeral water sources may appear in the Class III areas during a period of greater precipitation or during spring thaw. A stock reservoir near the west end of the open road corridor in the Mt. Logan Class

III area is the only other developed water source in the Class III areas. It does not currently have a water rights filing on record.

Air

Currently, the air quality classification for these areas is Class II; allowing moderate deterioration associated with moderate, well-controlled industrial and population growth. The classification was established under the Clean Air Act (as amended 1977) for all BLM-administered lands.

Within three miles of Mt. Trumbull to the east and south and contiguous to a portion of the Mt. Logan Opportunity Class III area lies Grand Canyon National Park, a Class I airshed. The quality of the airshed in the Opportunity Class III areas is currently within the baseline air standards for the park.

Specifically, air quality is good to excellent with the lowest levels of Total Suspended Particulate (TSP) in winter and the highest levels in summer. On an area-specific basis, potential sources of TSP concentration are wildland fires, urban pollutants from large cities to the south and west, and dust from higher traffic volumes on the Mt. Trumbull road during higher use periods.

BLM does not have the prerogative to change the air quality classification, however, the State of Arizona may reclassify, following the completion of study required by the Clean Air Act Amendments of 1977. BLM currently manages air quality in the Mt. Trumbull-Mt. Logan region to the same standards as those of Grand Canyon National Park.

Winds in the area are most commonly from the south and southwest, generally ranging from 5 to 10 mph. Higher winds generally accompany regional frontal systems passing through the area and summer thunderstorms. Winds from the north can blow in the fall and winter.

Precipitation in the Class III areas is similar to that of the Class II area. Rain gauge information accumulated in the Mt. Trumbull area since 1977 shows that winter and summer are typically the highest precipitation periods. Overall, the average precipitation in these areas is extrapolated as 16 to 19 inches per year.

Assumptions

* Soil conditions are generally expected to remain stable in these areas throughout the life of the plan as long as the vegetative communities remain

* Soil erosion along portions of the Summit Trail will continue to accelerate

* The existing location of the Nixon Spring pipeline spigot will affect the visitor use patterns in the immediate vicinity both in and out of the wilderness

* Established water rights existing under state law prior to wilderness designation will not be affected by the wilderness designation

* If unappropriated water is available, the amount of water claimed by BLM would be limited to the minimum amount required to satisfy wilderness purposes

* There are no anticipated changes in air quality throughout the life of this plan to warrant a reclassification

* Unless and until the State of Arizona changes the classification, wilderness lands in Opportunity Class III will continue to be managed for Class II or better air quality

* Greater traffic volume in the future along the Mt. Trumbull road during drier soil conditions will not significantly affect the air quality within the Opportunity Class III areas

Management Actions

* Maintain the Mt. Trumbull Summit Trail by non-motorized means to protect both on and off site resources. Rebuild water-bars to divert runoff and reduce erosion of the trail. Solicit volunteers to perform the work. Study the trail for possible realignment in problem areas.

* File water rights in BLM's name on Orson Spring if unappropriated water available for wildlife and present and future recreation purposes.

* Test all springs that are developed for recreational use for culinary standards. Make this information available at the district office.

* Move the Nixon Spring water spigot to redistribute public use in the area.

WILDLIFE

Wildlife species are natural components of the Mt. Trumbull and Mt. Logan Wildernesses. The wide variety of permanent or seasonal species in these areas contributes to the overall value of these wilderness areas to both the recreationist and the scientist. The Mt. Trumbull-Mt. Logan Wilderness Management Plan will briefly discuss wildlife, but only as its management has a potential to diverge from the wilderness objectives.

Wildlife management typically involves two elements, species management and habitat management. The principal management responsibility of the BLM in relation to wildlife is habitat. The Arizona Game and Fish Department (AG&FD), and the U.S. Fish and Wildlife Service (FWS) primarily have the responsibilities of species management, however, BLM and FWS are responsible for management of Threatened or Endangered wildlife species.

The Habitat Management Plan (HMP) is the primary management tool for establishing a comprehensive wildlife program for the Uinkaret Mountains. The Mt. Trumbull HMP was written in 1976 and for the most part has been implemented. In this HMP is a comprehensive list of over 200 species of fauna which occur in the Uinkaret Mountains and portions of the Kanab Plateau. It also includes a thorough review of the habitat and wildlife species interrelationships. The age of the HMP and the fact that wilderness objectives and mandates are now part of the existing situation point to a need for revisions so the HMP will better reflect the current and future management objectives for wildlife in wilderness.

BLM and AG&FD work closely in managing both the habitat and the species in the Uinkaret Mountains area under the existing Mt. Trumbull HMP. Since the HMP covers a much larger area, intensive management objectives have not been specifically directed toward these small wilderness areas.

In the Class III areas of Mt. Trumbull and Mt. Logan poaching of wildlife species and conflicts with predatory wildlife species are not significant problems. No feral animals have been documented in these wildernesses. Within the relatively small Class III areas, most wildlife species are believed to be transient; generally occupying other adjoining areas as part of their total home range.

Twenty years ago the Mt. Trumbull region was famous for its mule deer herd and its production of record-book bucks. Several of the largest deer ever shot by hunters in Arizona came from here. However, in recent years the deer numbers have declined dramatically and today few deer can be found in this area. There is no consensus as to the reasons for this decline. Debates center around higher seral stages, increased water developments and predation. The AG&FD are interested in conducting future surveys to better understand current trends in the deer population.

Two non-native species which probably receive the most attention by hunters in the Mt. Trumbull and the Mt. Logan area are the Kaibab squirrel and the Merriam turkey. Both species are doing well and occupy most of the available Ponderosa pine habitat in the area.

Kaibab squirrels were transplanted in the Mt. Trumbull area from 1971 to 1975 to extend the range of the species (improving possibilities to remove them from protection under the Endangered Species Act and stabilize populations throughout their range), to possibly open a hunting season and to protect the species from potentially being wiped out by disease. There are no known tagged squirrels. Due to the small number of Kaibab squirrels released their gene pool is considered restricted.

Turkeys were transplanted into the Ponderosa pine forests of Mt. Logan in 1961. Thirty seven birds comprised the initial transplant. They were captured from the Kaibab Forest. The birds have continued to prosper; growing to a population of approximately 250 birds. The highest hunter success ratio in Arizona results from the fall turkey hunt in the Uinkaret Mountains. Twenty five gobbler permits are issued each spring, whereas the fall hunt is unlimited.

Raptor species which may be seen in the area include at least eight kinds of owls, sharp-shinned hawks, goshawks, Cooper's Hawks, red-tailed hawks, Swainson's Hawks, ravens, golden eagles and possibly three species of falcon--the kestrel, prairie and peregrine.

The Mt. Trumbull and Mt. Logan Class III areas do not have any wildlife developments and none are currently proposed. The Slide Mountain wildlife access road is barricaded.

At the present time, there are no known, federally listed, threatened or endangered (T&E) species in the Trumbull/Logan Wildernesses.

BLM currently informs the deer hunter of its wilderness management concerns through press releases, contacts with BLM employees in the field, and of an information letter. Wilderness information is also provided in the Arizona Hunting Regulations by the AG&FD.

Predatory animals, such as mountain lion, bobcat and coyote are found in the wilderness. On occasion, such animals prey on livestock or wildlife to such an extent that requests for predator control work are made. Through a Memorandum of Understanding

(MOU) with the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS), predator control for livestock is accomplished. This MOU recognizes that all predator control activities in wilderness need to be consistent with the wilderness management guidelines.

Assumptions

* Habitat is adequate to support existing wildlife in the area

* Higher hunter use of these areas will accompany any upturn in mule deer numbers

* T&E wildlife species are not expected to be a concern in the wildernesses during the life of this plan

* Requests for control of predators may occur

Management Actions

* Take the management actions necessary to comply with the Endangered Species Act if federally listed T&E species are found in the wildernesses.

* Respond to requests for predator control in a manner which fully recognizes wilderness values and the role of predators in the natural ecosystem.

* Use correspondence, press releases and field contacts to notify licensed hunters of the wilderness management concerns.

* Work with AG&FD on mule deer studies.

* Revise the Mt. Trumbull HMP to incorporate the management direction provided by this plan for Class III areas.

Social Setting Components

RECREATION

Currently, 26 campsites are documented within the Class III areas of Mt. Trumbull and Mt. Logan--mostly at various points around the perimeters of the wildernesses, several literally on the boundary and all associated with boundary roads. The highest concentration of campsites lie on the Trumbull Road along the southern base of the mountain and along the Mt. Logan-Petty Knoll Road. The campsites are not typical for wilderness in that they are car-camp type sites established long before wilderness designation came to the area. Two groupings of campsites in the Mt. Trumbull Class III area currently exceed the standard for this class with eight and nine campsites per 500-acre area; the standard being no more than five. These two groupings are centered at the east edge of Nixon Flat. The Mt. Logan sites are dispersed along the boundary and do not exceed the standard.

The two campsite groupings at Mt. Trumbull also exceed the standard for the number of impacted campsites exceeding a given impact rating per 500-acre area. Within each of the groupings, seven campsites are highly impacted and one is minimally impacted; the standard being no more than two moderately impacted and three minimally impacted. The significant impacts include large, littered fire rings; bare, compacted soils; some tree damage; and evidence of vehicle use up to 150 feet inside the wilderness. Additionally, a makeshift pit toilet was erected at the northern end of the campsite grouping. The Mt. Logan sites are well within the standard.

The only constructed trail within any of the Class III areas is the initial 2,400' of the Mt. Trumbull Summit Trail. The trail begins obscurely at the boundary road on the east edge of Nixon Flat. A small directional sign is the only evidence of the undeveloped trailhead. The first 900 feet of the trail is actually an old roadway with a portion of the Nixon Spring pipeline buried beneath. As the roadway ends, the trail narrows and begins to climb the southern slope of the mountain. It is in this 1500-foot section that moderate erosion and water bar washout is occurring.

The Class III areas contain other de facto trails in the form of water pipelines, fencelines and roadways. When these projects were originally constructed, corridors were cleared of vegetation. Today, the clearings for the Nixon Spring and Coyote Spring pipelines, much of the fencelines and some of the roadways are well along in the process of natural revegetation; however, the cleared areas remain noticeable and serve some visitors as access routes. The Orson Spring pipeline on the northern slope of Mt. Trumbull is very noticeable because an access road accompanies the pipeline and has not revegetated naturally. This route provides an opportunity for visitor access to the northern slope of the mountain.

Opportunities for solitude within the Mt. Trumbull Class III area are moderate. There is an 86% probability of no more than one encounter per day with other recreation users during the high-use season along the base of the western slope of the mountain. In the vicinity of the Coyote and Orson pipelines as well as the northwestern corner of the wilderness, there is an 86% probability of no more than two of these types of encounters per day. The base of the southern slope of the mountain along the Mt. Trumbull road has the highest potential for recreation visitor encounters in the wilderness; an 86% probability of no more than four encounters per day, which is near but within the standard of 80% for Class III.

Within the Mt. Logan Class III area, opportunities for solitude are similar to those of Mt. Trumbull. There is an 86% probability that no more than two encounters per day will occur with other recreation users during the high-use season in the Big Spring to Hell's Hollow area; well within the standard for Class III. In the Mt. Logan to Slide Mountain area, there is an 86% probability of no more than four of these types of encounters per day, which is near but does not exceed the standard.

The Class III areas on the northern side of Mt. Trumbull and along the Mt. Logan-Petty Knoll boundary road have an 86% probability of not more than two encounters with other-than-recreation users (livestock operators, administrative personnel, etc.) per day during the high-use season. Within the Mt. Trumbull Class III area along the southern slopes, there is an 86% probability of not more than three of these types of encounters per day. Within the majority of the Mt. Logan Class III area, there is an 86% probability of no more than one encounter of this type will occur per day. These types of encounters are largely due to the influence of the sights and sounds of these users outside the wilderness along several miles of well-used boundary roads. The existing situation is currently within the standard 80% probability of not more than three encounters of this type per day.

One of the two campsite groupings at Mt. Trumbull currently exceeds the standard for in-camp encounters with other groups camped nearby. There is only a 71% probability of encountering no more than three groups within sight or sound of camp in the campsite cluster at the east edge of Nixon Flat; the standard being a 90% probability of no more than three of these encounters. The remainder of intervisible campsite groupings in the Class III areas are well within the standard for the class.

The overall likelihood for unregulated movement in and interaction with the natural environment is moderate. While there is currently very little regulation of visitors other than wilderness boundary signs, the presence of pipelines, cleared fencelines and old roadways in this class diminish the likelihood of interaction with a natural environment. This same physical setting likewise provides only a moderate opportunity to experience challenge and self-reliance.

Typical visitor use patterns have involved car-camping along wilderness boundaries, hunting and day-hiking. The car-camping situation is most significant in the campsite grouping at the east edge of Nixon Flat. The condition is, in part, due to the availability of water on the Nixon Spring pipeline just outside the wilderness boundary and the long established tradition, mostly by local visitors, of camping in this area.

Very little backpacking occurs solely within these areas due to the general lack of desirable destinations and the relative ease with which desired experiences can be realized in a day. These areas serve as zones through which visitors pass traveling to other destinations within the wildernesses. Virtually all of the visitor use is believed to on weekends and major holidays between the months of May and October.

Visitor profiles for those passing through these areas are the same as those described for the other classes. Those day-hiking in the proximity of the boundaries are most likely visitors car-camping near the boundaries. Based on occasional licence plate observations, these visitors generally are local (southern Utah) and regional (Utah, Arizona, Nevada) residents with a small percentage of visitors from other nearby states.

Like the other classes, Class III areas have very little recreational horseback use but more deer hunting even though success has been marginal in recent years.

The existing situation for commercial guiding and/or outfitting in these areas is the same as that described for Class I.

Permits for non-commercial visitor use are not required at this time and no limits on the length of stay or party size are imposed.

Information currently available includes visitor maps distributed off-site and visitor assistance both in the office and off-site in the Mt. Trumbull area upon request.

Assumptions

* Visitor use will remain somewhat static with a slight upward trend over the life of the plan

* Unless changed through BLM practices, patterns of visitor use will remain the same

* Monitoring of recreation indicators will improve current information, thereby requiring periodic review and revision of recreation objectives, policies, indicators, standards and actions

* New recreation indicators may need to be developed during the implementation period to address group size, party size and stay limits should conditions dictate

* Maintaining or upgrading the Class III settings will require a more intense level of management than for the other classes

* The demand for and the supply of commercial guiding and/or outfitting is not expected to increase significantly over the life of the plan from what is now proposed

* A greater effort is needed in off-site user information

* Implementation of the plan will require a greater commitment of time and money than currently used

* The area possesses qualities which would be conducive to the development of short, interpretive trails

* The Summit Trail and any subsequent trails built will require defining a standard of maintenance and a commitment of funds to maintain the standard

* Maintaining the standard for encounters with other-than-recreation users in Class III could require management actions be taken outside the wilderness

Management Actions

* Monitor the indicators of campsite condition in Class III each fall following the high-use season. All campsites found will be inventoried using the impact rating worksheet and the results compared against the Class III standards. If the standards are exceeded then the camp area will be cleaned up or completely removed. Campsites will also be evaluated for their ability to rehabilitate naturally.

* Remove the evidence of car-camps in the Nixon Flat portion of the wilderness using nonmotorized means. Barricade and sign the entry roadways to these camps at the wilderness boundary. Move the water spigot to encourage car camping outside the wilderness.

* Maintain the Mt. Trumbull Summit Trail to insure safe travel by visitors. Maintenance will include studying the trail and identifying specific problem areas where corrective action is needed. Corrective action may include realignments, increasing tread width, reducing grades and replacing and/or installing water bars. A trailhead facility will be provided and will include a visitor register, parking and general information.

* Build no new trails in Class III areas at this time. However, information about other possible hiking opportunities within the areas will be conveyed upon request.

* Propose no group size limits in this plan. However, as part of the overall monitoring of wilderness indicators, the sizes of any groups encountered on the Mt. Trumbull Summit Trail will be documented. Any group size limits imposed in the future will be a result of monitoring information and visitor use data gathered at the trailhead facility which, when analyzed, demonstrates a need for such limits.

* Monitor the indicators of solitude in Class III areas each 4th of July weekend during the high-use season. Numbers and types of encounters with other recreation users and other-than-recreation users will be documented. The resulting information will be compared with the standards for these indicators for Class III areas and past inventory information to determine if the current use and the trend are within the limits of acceptable change. If the trend is downward or the standards are exceeded by the documented use, appropriate actions will be considered to offset the declining condition. Any actions taken to correct substandard conditions by limiting or restricting visitor use will be communicated to the public using the procedures outlined in 43 CFR 8560.1-1, Permits for and restrictions on use.

* Place a small, unobstrusive register at the summit of Mt. Logan to record visitor use at this destination point.

* Existing indicators and standards for campsite conditions and solitude will be evaluated on an annual basis to determine if their continued use is adequate for maintaining or achieving resource and social objectives.

* Provide pertinent information at the Mt. Trumbull Summit Trailhead facility to heighten visitor awareness about the experience opportunities that Class III areas offer as well as their expected behavior within these areas. Administrative contacts with visitors will also be maximized at this facility. It is at this facility that information will be acquired concerning visitor profiles.

* Evaluate any special recreation permit applications for providing commercial services within the wilder-

nesses in light of this plan's policies and guidelines for such services. Proposed services that are not compatible or can be accommodated elsewhere will not be authorized. Any commercial services that are permitted will be monitored for compliance with the permit and its stipulations. Additionally, the effects of permitted commercial services on resource and social settings will be monitored and an evaluation made following the use.

* Refuse authorization of the proposed upgrading of a livestock trail on the northern slope of Mt. Trumbull.

Managerial Setting Components

CULTURAL RESOURCES

(The cultural resources overview described in the Introduction adequately portrays much of the existing values known and thought to be present within the wildernesses.)

Within the 1,280-acre Mt. Trumbull Class III area, roughly 488 acres were part of a cultural resource study done in the Mt. Trumbull region. A "Class II" cultural inventory (1974 by the Museum of Northern Arizona (MNA)) concentrated primarily on the summit and southwestern slope of the mountain.

The inventory involved walking transects within the study area and as such, not every acre was studied. The total area of the inventoried transects within Opportunity Class III is approximately 210 acres, or 16% of the total acreage. Of the prehistoric sites documented by the survey within the Mt. Trumbull Wilderness, 77% were located in the Class III area. The types of sites documented ranged from artifact and debris scatters to multi-room pueblos used by the Virgin Anasazi. Some sites showed evidence of subsequent use by the Southern Paiute Indians.

As part of the analysis of the data generated by the MNA survey, environmental factors were examined as indicators of probable site locality and site density within the area of study. It was found that certain environmental settings were conducive to higher densities of prehistoric sites than were other environmental settings. The environmental setting found in the majority of the Class III area is favorable to high site densities.

Two historic properties are recorded in the Class III area and are thought to date from late 1800s, a time when the first massive timber cutting was done in the Mt. Trumbull area. One of the original sawmill sites is on the southern wilderness boundary, while a short portion of the Temple Trail (the route used to haul cut lumber from the sawmill site to St. George, Utah) passes through the southwestern portion of the area. A BLM sign, off-wilderness near the sawmill site, interprets the site and the Temple Trail.

Within the 2,025-acre Mt. Logan Class III area, 656 acres have been inventoried for cultural properties. The 1974 MNA study included 203 acres of this area. Subsequent inventories by BLM personnel surveyed 453 acres. Five prehistoric Anasazi-era sites and one historic sawmill site have been recorded. A rock art site was recently reported to the BLM by members of the American Rock Art Research Association.

In 1870, a party of men led by John Wesley Powell and Jacob Hamblin met with the Shivwits and Uinkaret Paiute at Big Spring. Although historic sources definitely place the Uinkaret Band in this general area, no Southern Paiute sites have been documented. This situation reflects the lack of adequate inventory in the Big Springs area and the difficulty archeologists have in identifying Paiute sites from surface remains.

The Mt. Logan Class III area does contain environmental settings conducive to prehistoric use. These settings are all outside of the 656 acres previously inventoried.

The probability of site vandalism, either hobby-hunting or professional pot-hunting, is generally moderate in the Mt. Trumbull Class III area due to easy access, higher site densities and the site types which could contain desirable artifacts. Site monitoring in this area occurs more frequently than in the Class I and II areas. Several instances of vandalism have been documented since 1981. In the Mt. Logan Class III area, the probability of site vandalism is low. Existing interior roadways allow access to this area, but the type of sites recorded to date are not usually subject to vandalism and no incidents have been recorded.

Currently, all sites are subject to the natural forces of weathering. No excavation, stabilization or restoration of known sites has been done and no public use category sites are currently identified. However, the possibility of a minor restoration and interpretation project has been discussed but not formally proposed. No sites are presently listed on the National Register of Historic Places.

Assumptions

* While the MNA study established the presence of three prehistoric cultural periods in the survey area, further inventory and analysis will be necessary to fully and adequately describe and explain local and regional prehistory

* The priority for future study in the Mt. Trumbull Class III area will supersede that of the Class I and Class II areas

* The priority for future inventory in the Mt. Logan Class III area is less than the Class II area (which has had no inventory) and more than the Class I area

* The potential for vandalism of sites within the Mt. Trumbull Class III area may increase during the life of this plan while the potential in the Mt. Logan Class III area will not

* Strong protective measures, involving a greater commitment of funding, may be required for cultural sites within the Mt. Trumbull Class III area in order to protect, preserve, study or interpret them

Management Actions

* Conduct a cultural resource inventory in Opportunity Class III to obtain better baseline information. Record all newly discovered sites in AZSITE (the Arizona statewide data base).

* Evaluate all sites for assignment to the appropriate use category, as defined in Arizona BLM Manual Supplement 8111.23.

* Identify sites allocated to public use for the public primarily through off-site means. The sites will be monitored for human impacts.

* Select and periodically monitor key sites for any adverse impacts.

* Include past land treatment areas in future inventories to determine the impact of those past treatments on any cultural resources.

* Allocate to public use and periodically patrol to discourage vandalism the Sawmill area at the base of Mt. Trumbull. As time and money are available this site will be better interpreted for recreational interest.

FIRE MANAGEMENT

> *"Current fire management philosophy recognizes that fire is not a recent aberration that the white man has visited upon the environment, but a natural part of our forest and rangeland ecosystems" (Stankey 1976).*

The results of natural ignition fire, left unsuppressed, depend on the environmental factors at a given time. Topography, the variety and density of fuels, a prolonged period of drought and hot, dry southwesterly winds can produce major fires. The same area in wetter and cooler climatic conditions may only produce small fires or none at all.

In the Class III areas, the natural role of small fires can contribute to maintaining natural conditions, reduce the buildup of ground fuel, create natural fuel breaks, create or improve habitat for wildlife, and recycle nutrients important to the overall health of the system. Naturally occurring large fires have the potential to remove the climax or near-climax forests or woodlands in the Class III areas, replacing them through succession with a young, even-aged forest or sagebrush or mountain shrub in the woodland type.

Much of the forest area in the Mt. Logan Class III area, however, are not currently favorable to the natural role of fire. An incomplete timber stand improvement project, done in the mid-1970s (see Vegetation), has created a severe fire hazard on about 400 acres of the summit area of Mt. Logan. Very heavy fuel loads piled and scattered randomly on the forest floor as well as areas of dense, even-age growth in this area are conducive to large, unnatural conflagrations.

Currently, fire prevention during periods of high fire hazard is accomplished through media notifications, public contact and off-site signing. Detection of fire is accomplished partly through the coordinated use of Remote Automated Weather Station (RAWS) information and the Automated Lightning Detection System (ALDS). Aerial surveillance and on-the-ground observations by fire personnel stationed nearby complete the detection process.

Since wilderness designation, the District's "Interim Guidance for Fire Suppression in Wilderness Areas" has directed fire suppression activities in the area. Generally, the guidance is aimed at containment or control with the minimum tool required but does require a wilderness resource advisor to counsel the incident commander about wilderness resource values at risk.

Fire history has been documented in the area for 23 years. Typically, in the Class III area, fire occurrence and intensity are low.

Based on the more accurate documentation of the last 12 years, fire frequency in the Mt. Trumbull area averages 0.42 fires each year, with the average size of 0.75 acres. The largest fire documented was no more than two acres, due in part to fire suppression activities. All fires recorded in this Class III area have been on the southern slopes, the majority in pinyon-juniper vegetative type.

Fire frequency in the Mt. Logan Class III area averages 0.33 fires each year for the past 12 years, with an average size of 1.06 acres. The frequency of fires in this area is the same as that of the Mt. Logan Class II area, however, the average size is greater. Generally, those fires documented have been in the higher elevations, concentrated somewhat in the ponderosa pine area atop the basalt rim north of Big Spring.

No helispots have been officially identified within these areas. Few natural openings favorable to safe helicopter landing operations are within the Mt. Trumbull Class III area. Sagebrush areas and the openings created by several roadways (see Administration) are possible helispots within the Mt. Logan Class III area. The overall size and accessibility of both of these Class III areas are conducive to nonmotorized fire operations for low intensity, low risk fires.

Fires within the Mt. Trumbull area generally have not threatened adjacent private structures or livestock. Fire suppression activities have, on occasion and with permission, used private water sources. Structures at risk within the area are several miles of fence, any exposed portions of the Orson Spring development or the Nixon and Orson Spring pipelines (see Livestock Grazing).

Within the Mt. Logan Class III area, fire has the potential to threaten resources in Grand Canyon National Park, private land developments at Big Spring and wilderness and nonwilderness resources and structures along the summit of Mt. Logan. Structures at risk within this area are several miles of fence, any exposed portions of the Hell's Hollow and Big Spring pipelines or Big Spring development, (see Livestock Grazing) and the BLM repeater and RAWS (see Administration).

Prior to this planning effort, there was no prescription for allowing certain fires to follow their natural course.

(Refer to the Mt. Trumbull-Mt. Logan Fire Management Plan for further detail on fire behavior and proposed suppression techniques and prescriptions.)

Assumptions

* Fire is a natural part of this ecosystem

* Past fire suppression activities have not significantly changed the fire regime in the Mt. Trumbull Class III area

* The forest condition on the summit of Mt. Logan will continue to be a fire hazard and potentially threaten both wilderness and nonwilderness resources

* Larger fires are a part of natural plant succession

* The risk of man-caused fire is greatest in the areas near boundary roads and where there is higher visitor use

* Fires at or near opportunity class boundaries will require suppression strategies that consider the fire management objectives of both classes

* The higher level of recreation and other resource use of the Class III areas will require greater consideration of visitor and user attitudes toward wildfire in developing suppression strategies

Management Actions

* Write a fire management plan which defines the way fires will be handled in the Mt. Trumbull Class III area and the Mt. Logan Class III area; whether they are managed under the observation fire strategy or the fire suppression strategy.

* Identify helispots, using in-house field knowledge and aerial photography. Identify sites that are natural openings or places where the natural vegetative communities would allow the landing of a helicopter for emergency fire fighting. No helispots are to be built or maintained within the Class III areas, however there are greater opportunities in this class to land a helicopter.

* Identify in the fire management plan all structures and contiguous lands that will require special fire suppression protection.

* Do an escaped fire analysis to determine appropriate suppression strategies on all fires that burn across opportunity class boundaries

* Coordinate with Grand Canyon National Park about fire suppression strategies in the Mt. Logan area.

* Maintain the excellent ecological condition and fire regime of the Mt. Trumbull Class III area by developing a fire plan which allows natural ignitions to be influenced by naturally occurring conditions. Study and document plant compositions typical of this area to provide baseline data for use in rehabilitating ecologically poor or fair sites having similar physical characteristics.

* A prescribed burn plan will be developed for the Mt. Logan ponderosa pine area that is currently in a degraded condition. This plan will develop a strategy for removing the high fuel load and/or for providing fuel breaks. This plan will also direct efforts to open up the stand by burning out small natural openings in an attempt to favor the development of an uneven aged timber stand.

EMERGENCY SERVICES

Within the Arizona Strip District and these two wildernesses the Coconino and Mohave Sheriffs' offices have the primary responsibility for search and rescue operations. BLM's role has traditionally been one of cooperating with and actively supporting sheriff-directed search and rescue efforts, primarily in other areas of the district. The National Park Service, contiguous to much of Mt. Logan Wilderness to the east and south, carries out search and rescue operations in Grand Canyon National Park and Lake Mead National Recreation Area.

BLM recognizes an obligation to the public in cases where immediate action is necessary to provide aid to visitors who are lost, seriously ill or injured. Within the Class III areas of Mt. Trumbull and Mt. Logan, there are no cases of record where a search and rescue effort has been needed. These areas generally do not pose a high hazard to visitors, however the basalt rim area of Mt. Logan is potentially hazardous in its abrupt ledges. Additionally, the pine slash area along the crest of Mt. Logan poses a hazard to visitors passing through the area. This does increase the possibility of necessary search and rescue efforts in the future.

There is currently no cooperative agreement between BLM, NPS and the Mojave County Sheriff for search and rescue roles specific to the wildernesses. Subsequently, county personnel are unaware of BLM policies for search and rescue operations in wilderness areas. Additionally, there is no formal search and rescue plan to address operational procedure or to identify potential aerial hazards and helispots for use during operations.

While several BLM personnel are qualified Emergency Medical Technicians and all personnel are trained in first-aid practices, no one in the district has formal training in search and rescue techniques and strategies.

Assumptions

* The Mojave County Sheriff will continue to have lead responsibility for search and rescue operations within the wildernesses

* Search and rescue actions associated with the Class III areas of Mt. Trumbull and Mt. Logan Wildernesses are expected to be low due to the relatively low visitor use in these areas

* Any increases in visitation could also increase the need for search and rescue preparedness and capability.

* Effective emergency service, while maintaining wilderness objectives, will require close coordination among the county sheriff's staff, NPS and BLM and a common understanding of each agency's roles and responsibilities

* BLM personnel may need to initiate search and rescue operations when emergencies arise and BLM is the first contact

* The more accessible nature of most of the Class III areas will decrease the response time for ground operations

* As the heavy and hazardous fuel loads in the Mt. Logan area are reduced by prescribed burning, the potential hazard to visitors will be gradually removed.

Management Actions

* Continue to guide BLM personnel in roles and responsibilities involving search and rescue with the Arizona Strip Search and Rescue Plan, even though search and rescue operations in these areas will continue to be the responsibility of the Mohave County Sheriff's office. Review the District SAR Plan each year for adequacy regarding its application in these areas. No plan specific to the Mt. Trumbull and Mt. Logan Wildernesses is needed at this time.

* Include introductory methods for search and rescue in the annual first-aid training and refresher courses for all employees.

* Rehabilitate immediately, after operations are finished, any significant surface disturbances resulting from search and rescue efforts.

* Identify helispots and any aerial hazards using in-house field knowledge and aerial photography. Identify sites that consist of natural openings or places where the natural vegetative communities would allow the landing of a helicopter during search and rescue operations. No helispots are to be built or

maintained within the Class III areas.

* Document any potential hazards to public safety during wilderness patrols and monitoring efforts. If possible, correct those identified as significant, otherwise, inform the public of such hazards at the trailhead facility at Nixon Flat.

LIVESTOCK GRAZING

The 3,305 acres that comprise the Class III areas of Mt. Trumbull and Mt. Logan are small portions of three livestock grazing allotments administered by BLM.

Tuweep Allotment
The 1,280 acres of Class III within Mt. Trumbull are part of 32,169 acres of summer pasture for the Tuweep Allotment. Five pastures on a rest rotation system make up the summer range. Portions of two of these pastures lie within this Class III area, each one receiving rest every other year.

Based on a 1983 grazing decision the total active preference for the allotment is 1,980 AUMs on federal lands. The estimated active preference within this Class III area is 10 AUMs or 0.5 percent of the entire allotment.

Several range improvements exist within this Class III area; however, no areas of previous vegetative manipulation are present and none are currently proposed. Portions of the Nixon Spring and Coyote Spring pipelines as well as the Ponderosa/East Trumbull and Ponderosa/White Spring Division fences passing through this area are critical to the operation and management of this portion of the allotment and the allotment as a whole.

Generally, ground vehicle access to these improvements is difficult to impossible, and therefore, inspection and maintenance are nonmotorized. The Orson Spring development and pipeline are accessible by motorized vehicle; however this use has rarely occurred in the past (see Appendix C for maintenance schedules). Past reconstruction activities on the Coyote Spring pipeline have resulted in portions of the original steel line being discarded above ground in the wilderness. A small soil pit is at the wilderness boundary along the Coyote pipeline.

At this time, no range study plots exist in the wilderness; therefore, utilization, trend and apparent ecological condition are extrapolated from nearby plots. The current vegetative composition in this class appears good to excellent with several very small areas in fair condition as it relates to the potential natural plant communities (see Vegetation and Glossary). The estimated utilization ranges from 5-25 percent; well within the standard identified for this indicator. The estimated ecological and range trend (static to slightly upward) is consistent with the resource setting objectives for the Class III area.

The 2,025 acres of Class III within Mt. Logan are parts of two allotments.

Big Spring Allotment
There are 1,175 acres of this class that are part of approximately 28,990 acres of summer pasture for the Big Spring Allotment. Several pastures on a seasonally deferred rotation system make up the summer range. Portions of these pastures lie within this Class III area. Under the deferred system, these pastures may be rested two out of three seasons.

Based on a grazing decision made in 1980 the active preference for the allotment is 2,410 AUMs on Federal lands. The estimated active preference within this portion of the Class III area is 34 AUMs or 1.5 percent of the entire allotment.

Mt. Logan Allotment
There are 850 acres of this class that are part of approximately 11,900 acres of summer/fall pasture for the Mt. Logan Allotment. Two pastures of a 4-pasture rest rotation system make up the summer/fall range. A portion of one of these pastures lies within this Class III area. Under the rest rotation system, this pasture may be rested every third year.

Based on a grazing decision made in 1980 the total active preference for the allotment is 1,188 AUMs on federal lands. The estimated active preference within this portion of the Class III area is 33 AUMs or three percent of the entire allotment.

Big Spring and Mt. Logan Allotments
Several range improvements are within this Class III area and also 245 acres of previous vegetative manipulation. Re-treatment of this area was proposed prior to wilderness designation. The Hell's Hollow pipeline and a portion of the Big Spring pipeline as well as the Big Spring development (on a 40-acre private inholding) and Heaton Pond are within this Class III area. Portions of the old Forest Boundary, the Grand Canyon National Park Boundary and the Petty/Slide Mountain fences are within this area; all are critical to the operation and management of these allotments.

While vehicle access exists to many of these improvements, past use has been rare. Inspection and maintenance proposed for the current year are nonmotorized (see Appendix C for maintenance schedules).

Generally, ground vehicle access to the pipelines, a pond and portions of the fences is possible along roadways existing prior to wilderness designation. The access to these roadways is by way of the 4.4 miles of the Slide Mountain to Hell's Hollow road, which was officially designated as an open road by Congress in the wilderness enabling legislation. Each of the three main roadways emanating from this open road corridor have been barricaded and locked; use with motor vehicles can occur only with BLM authorization (see Administration for more information on current management of these roads). One of the three roadways, Lower Big Spring Road, is the existing access to the 40-acre private inholding at Big Spring, and the permittee is currently given unlimited access. A portion of the Upper Big Spring Road also originates in this Class III area from the open corridor road; however, it does not serve as access to any existing improvements. The third road also originates from the open road and provides access to several ponds and a pipeline.

Because this area has no range study plots, utilization, trend and apparent ecological condition are extrapolated from nearby plots. The current vegetative composition in this class generally appears good to excellent as it relates to the potential natural plant communities. However, the vegetative manipulation areas mentioned above are in fair ecological condition. Utilization in this Class III area for the Big Spring Allotment is estimated to be mostly slight (6-20 percent) with a isolated areas of light use (21-40 percent) while most of Mt. Logan Allotment is estimated to be light (21-40 percent) with two small areas of moderate use (41-60 percent), which exceed the standard for this indicator. The estimated ecological and range trend (mostly static) is consistent with the resource setting objectives for the Class III area--except for the treatment areas, which show downward range trend.

Assumptions

* Under current grazing management systems operating within the constraints of wilderness, ecological conditions will improve over time

* Utilization levels and patterns of use will remain generally as they were under pre-wilderness conditions, however, the areas which currently exceed the standards for utilization will require further evaluation

* Ecological and range trend will remain generally static over most of the Class III areas; however, the areas of downward trend in Mt. Logan Wilderness will likely continue to slowly decline over time

* Motorized vehicles and mechanized equipment may be needed at times during the life of the plan to accomplish maintenance operations

* Due to the maintenance requirements of livestock developments, the need for motorized/mechanized maintenance will need to be analyzed on an annual basis

* Extrapolated existing range study plot information, periodic allotment inspections and actual use records will be sufficient to properly analyze changes in overall ecological conditions within the wilderness

* More frequent studies may be needed in substandard areas to more accurately monitor the ecological condition and trend.

Management Actions

* Manage the livestock program in Class III to favor improving ecological condition and trend rather than range (forage) condition and trend.

* Coordinate with Grand Canyon National Park for removal of the boundary fence between the Park and the BLM in the Mt. Logan Class III area.

* Remove all abandoned or spent materials used for livestock range improvements. Since most of these abandoned materials are very old and are not the result of neglect on the part of the current grazing permittee, BLM will focus efforts on removing these materials through the uses of volunteers.

* Maintain range improvements using the minimum tool concept. For the 1989 - 90 grazing year there is no planned need to use motorized equipment for range improvement maintenance or inspection.

* When project reconstruction is needed, BLM will evaluate the possibility of removal from the wilderness. When new range improvements are needed on nearby nonwilderness lands, they will be planned and placed in such a manner that will discourage higher than normal utilization in the wilderness.

* Identify, for the private land in the Big Spring area, one access identified for ingress and egress for livestock management purposes. The permittee will be encouraged to maintain his private inholding in a wilderness setting.

INSECTS AND DISEASE

The relative Isolation of the ponderosa pine forest of the Uinkaret Mountains region has protected it from the insect outbreaks that have plagued the other southwestern pine forests in recent years, most notably the North Kaibab. While infestations have not been a problem in the area, several forest pests are present endemically.

Within the 915 acres of ponderosa pine in the Class III areas of Mt. Trumbull and Mt. Logan are two endemic insects capable of damaging some or all of the forest. The Mountain Pine Beetle (Dendroctonus ponderosae) is endemic in all ponderosa stands. It normally attacks only old, decadent trees, but in epidemic proportions will attack and kill young, healthy trees. An epidemic could be triggered by the sudden death of large numbers of trees, such as that resulting from fire. The beetles would breed in the dead trees and attack surrounding green trees the following year.

Another endemic insect is the Southwest Pine Tip Moth (Rhyacionia neomexicana). This species of moth attacks 4-8 foot seedlings, killing the terminal shoot. Repeated attacks will weaken and severely deform a young tree. In contrast to most forest pests, this moth attacks on the most healthy and vigorous seedlings. Once a seedling reaches nine feet in height, it has exceeded the flight ceiling of the heavy, lumbering adult moth. The moth is quite common in the forest of the Uinkaret Mountains, although rarely above 7200 feet in elevation. Several of the forested portions of the Class III areas are within the optimum elevation range; their elevations generally being below 7200 feet.

The 1,590 acres of pinyon-juniper woodland found within the Class III areas are relatively free of damaging insects species. The Pinyon Needle Scale (Matsucoccus acalyptus) occurs rarely in the woodlands of the Uinkaret Mountains; however, when it is present it feeds on tree sap and weakens trees by killing needles that are older than one year.

There are two potential sources of disease in the forest and woodland vegetative types and both are parasites. Dwarf Mistletoe (Arceuthobium vaginatum subsp. cryptopodum) infects ponderosa pine trees of all age classes and may kill trees up to pole size within a few years of infection. Older trees are killed more slowly; from the top down, until all branches are dead. One small pocket of infected trees is documented within one mile of the wilderness.

True Mistletoe (Phoradendron subsp.), typically in pinyon-juniper woodlands, is the largest killer of juniper in the region. Only the golden fruiting bodies are visible externally with the tendrils located beneath the bark. It is not known to be a problem at this time in the woodlands of the Class III areas.

Assumptions

* Cyclic occurrences of endemic insect and/or disease infestations are a natural part of forest and woodland ecosystems

* Epidemic occurrences of insect and/or disease within Class III areas may pose a greater threat to valuable wood resources outside the wilderness than would outbreaks in the other two classes

* Epidemic occurrences of Mountain Pine Beetle resulting from human causes (e.g., large fire traced to human ignition) will not be considered natural infestations

* Dwarf Mistletoe (known to occur in the Mt. Logan area) may eventually threaten forested portions of the Class III area in the near future.

* Treatment or control measures needed in areas at or near Opportunity Class boundaries will require strategies that consider the management objectives of both classes

* The higher level of recreation and other resource use of the Class III area will require greater consideration of visitor and user attitudes toward insects and disease in developing control or treatment strategies

Management Actions

* Monitor the Class III area for insect and disease infestations. If infestations break out they will be observed to determine both the on and off wilderness effects. On-site effects will be evaluated on a case-by-case basis. Off-site impacts will be controlled. Impacts from non-wilderness infestations on wilderness will also be observed and handled on a case-by-case basis.

* Plan no programmatic environmental analysis to evaluate emergency responses to insect or disease outbreaks at this time.

* Give all non-emergency control of insect or disease a 30-day public review before any action is taken.

* Write no plans to control True Mistletoe in the Pinyon-Juniper woodland areas in Class III.

ADMINISTRATION

The Mt. Trumbull and Mt. Logan Wildernesses are administered under the authority and provision of the Federal Land Policy and Management Act of 1976, the Wilderness Act of 1964, and the Arizona Wilderness Act of 1984. Procedures for the management of the public lands designated as wilderness in these areas are found in Management of Designated Wilderness Areas (43 CFR Part 8560). Guidance for management of the wilderness resource is found in the BLM Manual Section 8560.

The wildernesses are administered by the Vermillion Resource Area of the Arizona Strip District of the Bureau of Land Management. A portion of Mt. Logan Wilderness lies within the Shivwits Resource Area of the same district; however, the lead responsibility for wilderness management is given the Vermillion Resource Area. The Bureau also actively manages other programs within these areas, such as recreation, wildlife, cultural resources, range, soils and watershed.

Administrative responsibilities are vested with the Vermillion Resource Area Manager and carried out by the resource area outdoor recreation planner, with program technical guidance and assistance from the district wilderness coordinator. On-the-ground management activities, such as visitor contact, visitor use data collection, informational signing and surveillance are accomplished primarily by the resource area outdoor recreation planner. Further, other district personnel frequently work in the Uinkaret Mountains area providing additional administrative presence. Currently, the use of seasonal employees or volunteers has not been used as extensively as is possible to assist in accomplishing such activities.

Prior to August 1988, enforcement of the provisions of 43 CFR Part 8560.1-2, Prohibited Acts or any other laws or regulations pertinent to public lands were handled by the appropriate state, county or federal agency possessing federal law enforcement authority. The process was cumbersome and was not conducive to timely response to violations. As of August 1988, the Arizona Strip District has employed a full-time law enforcement ranger. While timely response to violations will be improved, the enormous land area to be covered by one ranger still somewhat encumbers the ability to ensure better compliance with the public land laws.

A small portion of the Class III area of Mt. Logan Wilderness is contiguous to national park service lands managed by Grand Canyon National Park. The current management direction for most of these lands, which are administratively endorsed for wilderness designation, is for backcountry, primitive recreation and other purposes--compatible with the Bureau's wilderness management direction. The majority of the remaining Class III areas are contiguous to public lands within Class II areas of the wildernesses and nonwilderness public lands.

A 40-acre private inholding (with access) is in the Mt. Logan Class III area, and a portion of the Mt. Trumbull Class III is contiguous to 160 acres of private land along the northern wilderness boundary (both parcels used primarily for livestock grazing. The owner of the Mt. Logan inholding has expressed some interest in land exchange. Shortly after wilderness designation, all State of Arizona lands entirely or partially within these wildernesses were reconveyed to the United States of America.

Public access to these areas is not generally encumbered by denial of physical or legal access by adjacent land owners. However, the access road approaching Mt. Logan Wilderness from the east in the Slide Mountain area does cross a short section of private land (Arkansas Ranch) and public traversal is denied by the landowner. The Slide Mountain area, however, is also accessible via other routes.

Once at the wildernesses, public access into them may be almost anywhere along almost 15 miles of boundary road and 4.5 miles of open road passing through Mt. Logan Wilderness. At the time of designation, Congress specified in the enabling legislation that a 60-foot-wide road corridor along the Slide Mountain/Hell's Hollow Road would be left open to public use, in effect cutting the wilderness in two. Three roads (Upper Big Spring, Lower Big Spring and Slide Mountain Wildlife Catchment Roads) originate from the open corridor road. Each of these tributary roads has been barricaded, locked and signed. In spite of these measures, the potential exists for off-highway vehicle violations. The owner of the 40 acres of private land at Big Spring does, by law, have unlimited access to the inholding using the Lower Big Spring Road by agreement. The Upper Big Spring Road does not access any developments and is not used by the private land holder. The Slide Mountain Wildlife Catchment Road provides access to various range and wildlife developments (see Wildlife and Livestock Grazing).

About 12 less developed roadways exist in the proximity of the wilderness boundaries in the Class III areas. Most of these, as well as other potential vehicle access points, are signed but not barricaded. Barricades were, however, installed at the short roadways that provided vehicle access to the so-called Mt. Logan overlook. Subsequently, one barrier was removed by vandals and evidence of several vehicular violations has been documented. Compliance at many other access points has generally been good.

The Mt. Trumbull Summit Trail (see Recreation) originates in this Class III area. Currently, there is no designated parking area and the trail's point of beginning is somewhat obscure; marked only by a small directional sign at the boundary road. The trail is not currently maintained and does not meet new BLM standards for trails. Some parking at or just inside the wilderness boundary is occurring and also, in conjunction with the trailhead area, car-camping. (see Recreation). Litter, impacts to vegetation, motorized use and a make-shift outhouse are among some of the management concerns for this area.

Administrative communications from the Class III areas are currently very good, since the BLM's radio repeater is in this class, a short distance south of Mt. Logan summit. The repeater is considered temporary until a more suitable location outside wilderness is found. Maintenance of the repeater (a relatively small, portable unit) is accomplished by nonmotorized means. Currently, there is no direct radio contact from these areas with state or county law enforcement authorities.

The only other administrative structure within Class III areas is the Remote Automated Weather Station (RAWS) just inside the wilderness on the sloping crest of Mt. Logan. Like the BLM repeater, the RAWS is relatively portable and considered temporary. No other structures, other than range developments (see Class III Livestock Grazing), are in the Class III areas. Generally, the number and location of developments in the Class III areas are within the LAC standard of no more than five developments per 500-acre area. However, the Orson Spring area of Mt. Trumbull is at the limit and the Big Spring area of Mt. Logan exceeds the standard with seven developments.

Prior to wilderness designation, motorized travel for administrative (BLM, AG&FD, USFWS) purposes in these areas consisted of infrequent use of both ground vehicles and helicopters primarily for fire suppression, range and wildlife management. With wilderness designation came restrictions on motorized/mechanized equipment use, including administrative use. To properly administer such uses, the Arizona Strip District instituted a policy and procedure (still in effect) for requests of motorized/mechanized equipment use. The policy requires a formal request by employees to the District Manager for permission to use such equipment for administrative purposes. The procedure for authorization requires documenting the date proposed for equipment use, the type of equipment proposed for use, the purpose of the use and justification of the proposed use which includes conducting a thorough analysis that considers the need (minimum tool) as well as possible alternative methods and the reasons they cannot be employed.

Shortly after the wilderness designations of 1984, the Federal Aviation Administration (FAA), in cooperation with the Department of Interior, issued an advisory concerning wilderness overflights by all classes of aircraft. The FAA advises a minimum 2,000 feet above ground level (AGL) for all aircraft over statutory wilderness. BLM has adopted, as policy, this altitude for all administrative flights. Special exceptions to the 2,000 feet AGL are possible for emergency situations or under special circumstances required in the administration of wilderness. The procedure mentioned in the previous paragraph is used in such cases.

As part of the cooperative advisory, BLM recently began a compliance program for wilderness overflights. The BLM standard incident record form is used each time commercial, private or military aircraft are sighted below 2,000 feet over wilderness.

Currently, there are no special regulations, restrictions or requirements imposed on visitors beyond the existing laws, regulations and policies for management of wilderness and visitor services.

Assumptions

* Funding and personnel (including seasonal employees or volunteers) will be available to meet the desired objectives of this plan for the Class III areas

* Administration of the Class III areas will require more funding and personnel than the other two classes

* Management practices and direction on most of the contiguous National Park Service lands will continue to be compatible with wilderness management in these areas

* Maintenance of existing range structures may require occasional use of motorized or mechanized means

* All requests for BLM administrative use of motorized/mechanized equipment in these areas will continue to be closely scrutinized with careful application of the minimum tool policy and the environmental assessment process

* Any significant increases in visitation to these areas may result in a need for visitor use restrictions and/or law enforcement

* The current law enforcement process will continue to be somewhat cumbersome

* Increases in visitation may result in off-highway vehicle violations at access points not currently barricaded

* The Mt. Trumbull Summit Trail and trailhead area is currently substandard

* Without management action, the influence of developments in the Big Spring area will continue to affect the natural appearance of that area

Management Actions

* Utilize, where appropriate, volunteers and seasonal employees (fire and resource) to accomplish the various actions in this plan. All personnel of this type will be supervised by and their efforts coordinated through the area outdoor recreation planner. Volunteers and seasonal employees will generally monitor and do on-the-ground project work.

* Carry out law enforcement responsibilities using the Arizona Strip District Ranger. Other BLM personnel and volunteers will be involved in law enforcement activities only to the extent of reporting incidents observed. Volunteers do not initiate contact with users in such situations.

* Assign the majority of administrative patrol and monitoring for visitor compliance to the Class III area.

* Continue the current Arizona Strip District policy and procedure for administrative use of motorized vehicles and/or mechanized equipment within wilderness areas.

* Document each incident of aircraft below 2,000 feet AGL over wilderness using the Incident Record, Form 8360-4. Keep each Incident Record in the appropriate wilderness file and forward a copy through district line managers to the Arizona State Office.

* Remove all structures and related materials within the wilderness that are abandoned or have no historical value. Specifically, abandoned and discarded portions of the Coyote Spring pipeline will be removed. Nonmotorized means will be used to clean up this particular area.

* Barricade and sign all roadways entering the wilderness. Those roadways that may be needed for access during emergency or fire operations or for an authorized motor vehicle use by administrative personnel or livestock grazing permittees will be locked. All others will be permanently closed.

* Maintain the Mt. Trumbull Summit Trail to ensure safe travel by visitors. Maintenance will include studying the trail and identifying specific problem areas where corrective action (realignments, increasing tread width, reducing grades and replacing and/or installing water bars) is needed.

* Road maintenance is rarely authorized. Upper Big Springs Road will be barricaded and as the opportunity arises it will be revegetated using non-motorized means. The Slide Mountain wildlife road corridor will be allowed to revegetate naturally. Both road corridors will be used as natural fire breaks for the life of this plan.

* Keep open the Slide Mountain-Hell's Hollow Road to public motorized access in keeping with the legislative intent of the Arizona Wilderness Act of 1984. However, this road will not be maintained by BLM and it will be adequately signed on either side of the road for the length of the corridor. Car-camping will be discourage in this area and encouraged on non-wilderness lands elsewhere in the Uinkaret Mountains area.

* Install new and more effective barricades at the Mt. Logan overlook roadway. Additionally, a new sign informing visitors of off-wilderness parking will be ordered and installed.

* Check annually, all signs (interpretive, restrictive and informational) for condition and replace or restore as needed.

* Negotiate for acquisition of the 40-acre parcel of private land at Big Spring. Unless or until the parcel is acquired, access will be exclusive to the landowner and will be by way of the Lower Big Spring Road. The frequency of motorized access will be that which is necessary for the landowner to serve the purposes for which the land is used.

* Provide a trailhead facility in the Nixon Flat area to include a visitor register, parking and information. Pertinent information will be provided off-site at this facility to heighten visitor awareness about experience opportunities in Class III areas and expected behavior within these areas, . Administrative contacts with visitors will be maximized here. Information will concerning visitor profiles will also be acquired here.

* Remove the evidence of car-camps in the Nixon Flat portion of the wilderness using nonmotorized means. Barricade and sign the entry roadways to these camps at the wilderness boundary. Move the water spigot to encourage car camping outside the wilderness. Remove the makeshift outhouse and restore the site. Provide for this use off-wilderness.

* The RAWS and BLM repeater will remain in the Mt. Logan Class III area so long as the current locations serve the purposes for which the installations are intended. Both will continue to be serviced by non-motorized means. No new communications or weather monitoring installations will be authorized.

TABLE 4
COMPARISON OF OPPORTUNITY CLASS OBJECTIVES
Bureau of Land Management, Arizona Strip District

	OPPORTUNITY CLASS I	*OPPORTUNITY CLASS II*	*OPPORTUNITY CLASS III*
RESOURCE SETTINGS			
(Overall Descriptor)	Essentially unmodified natural environment	Predominantly unmodified natural environment	Slightly modified natural environment
1. Ecological conditions	Ecological factors stable and natural processes essentially free of man-induced controls	Ecological factors stable and natural processes predominantly free of man-induced control	Ecological factors stabilizing or stable and natural processes fairly free of man-induced controls
	Not noticeably affected by the actions of any users	Minimally affected by the actions of any users	Moderately affected by the actions of any users
2. Prevalence and duration of impacts	Visitor use rarely impacts soils and vegetation	Visitor use occasionally impacts soils and vegetation	Visitor use occasionally impacts soils and vegetation
	Most visitor impacts typically recover annually	Most visitor impacts typically recover annually	Some visitor impacts persist from year to year
	Other resource user impacts rare to nonexistent and temporary	Other resource user impacts few and generally permanent	Other resource user impact few and generally permanent
3. Visibility of impacts	Unnoticeable	Visitor impacts apparent to some visitors; other resource impacts apparent to most visitors	Persistent visitor impacts apparent to most visitors; other resource impacts apparent to most visitors
SOCIAL SETTINGS			
(Overall Descriptor)	Outstanding opportunity for isolation and solitude	Excellent opportunity for isolation and solitude	Moderate opportunity for isolation and solitude
1. General level of encounters	Rare	Fairly low	Low
2. Inter-party contacts while traveling	Rare	Very low-Low (Seasonal)	Low-Moderate (Seasonal)
3. Inter-party contacts at campsites	Rare	Rare-Very low (Seasonal)	Low-Moderate (Seasonal)
4. Sights and sounds of other resource users on-site and off-site	Rare	Occasional (Seasonal)	Moderately frequent (Seasonal)
5. Likelihood for unregulated movement in and interaction with natural environment	Very high	High	Moderate
6. Degree of risk and challenge	Very high	High	Moderate
MANAGERIAL SETTINGS			
(Overall Descriptor)	Very strongly emphasize maintaining and enhancing natural ecosystem and its processes with primitive recreation opportunities secondary	Focus on providing primitive recreation opportunities balanced with strong emphasis on maintaining and enhancing natural ecosystem and processes	Focus on providing semi-primitive recreation settings which coexist with other uses while emphasizing maintenance and enhancement of natural ecosystem and processes

To the maximum extent feasible, other ongoing BLM programs are managed to conform with the wilderness goals and the resource/social objectives for each class. Management strives to use methods which contribute to achieving maintaining or enhancing the desired conditions for the area while fulfilling other program responsibilities

TABLE 5 A
COMPARISON OF MANAGERIAL POLICIES & GUIDELINES
Bureau of Land Management, Arizona Strip District

RESOURCE POLICIES & GUIDELINES

OPPORTUNITY CLASS I	*OPPORTUNITY CLASS II*	*OPPORTUNITY CLASS III*
WILDLIFE MANAGEMENT:		
* Wildlife managers will endeavor to achieve goals and objectives primarily through actions taking place outside the Class I areas--promoting natural processes	* Same as Class I	* Same as Class I
* All species, including predators, are allowed to interact naturally to the maximum extent possible	* All species, including predators, are allowed to interact naturally to the extent possible	* Same as Class II
* Transplants, reintroductions and habitat developments will be considered when 1) the need is shown to be compatible with wilderness objectives for Class I and, 2) such actions are achieved using minimum tool	* Same as Class I	* Same as Class I
* T&E management minimum necessary to comply with Endangered Species Act	* Same as Class I	* Same as Class I
* (No riparian/wetland areas present)	* Riparian/wetland restoration is possible where degradation is people-caused or with a clear showing of benefits to recreation opportunites	* Riparian/wetland restoration is possible where degradation is people-caused or with a clear showing of benefits to wilderness resource setting
* Necessary wildlife management activities are carried out using minimum tool	* Same as Class I	* Same as Class I
* Nonmotorized techniques are best to meet Class I objectives		
* BLM strongly encourages minimizing number of monitoring flights and maximizing altitude of flights that are clearly needed	* Same as Class I	* Same as Class I
	* Where no reasonable alternative exists, occasional helicopter landings are possible	* Where no reasonable alternative exists, occasional helicopter landings or use of ground vehicles are possible
* Hunting and trapping are permitted subject to applicable state and federal laws and regulations. If these activities begin to cause unacceptable change to desired wilderness conditions, coordination between BLM and AG&FD will determine cause of change and appropriate actions to restore conditions	* Same as Class I	* Same as Class I

TABLE 5 B
COMPARISON OF MANAGERIAL POLICIES & GUIDELINES

Bureau of Land Management, Arizona Strip District

SOCIAL POLICIES & GUIDELINES

OPPORTUNITY CLASS I	*OPPORTUNITY CLASS II*	*OPPORTUNITY CLASS III*
RECREATION:		
* Direct on-site management of visitors seldom used	* Direct on-site management of visitors occasionally during the high-use season	* Direct on-site management of visitors regularly during the high-use season
* On-site strategies used only where urgent need for resource protection	* On-site strategies used only where necessary to maintain social setting and/or resource protection	* On-site strategies used where significant problems show need for law enforcement or for greater protection of resources, private property or social setting
* Rules and regulations governing visitor behavior communicated off-site	* Same as Class I	* Rules and regulations governing visitor behavior usually communicated off-site
* Formal rules, regulations, orders, permits possible when less formal measures fail to achieve objectives	* Same as Class I	* Same as Class I
* Administrative contact rare, occurs usually in emergency situation by invitation	* Administrative contact somewhat regular usually during monitoring, emergencies or by invitation	* Administrative contact frequent, usually during patrols, monitoring, emergencies or by invitation
* Duration of administrative contact minimum needed for situation	* Duration of administrative contact is usually short	* Duration of administrative contact ranges from short to lengthy
* Informal, off-site user awareness methods primary thrust of visitor use management	* Same as Class I	* Same as Class I
* Formal, off-site user awareness methods used when informal methods fail to achieve results desired	* Same as Class I	* Same as Class I
* Temporary signing possible for resource protection only	* Temporary signing possible as last resort strategy to maintain social setting and/or resource protection	* Minimum necessary long-term signing used when this method contributes to achieving objectives on substandard sites
* No constructed trails in the area	* Light-duty trails possible only for public safety or resource protection	* Light- to moderate-duty trails possible only for public safety, resource protection or directing visitor use patterns
* Commercial services are not encouraged	* Commercial services considered when necessary for realizing recreational or wilderness values	* Same as Class II
* SRP applications are analyzed to determine if compatible or if other lands would better serve purpose	* Same as Class I	* Same as Class I
* SRPs are day-use only for large groups and horse trips with off-site base camps	* SRP holder may establish temporary, minimum impact base camps where such use is compatible with area objectives	* SRP holder encouraged to use off-site base camps; however, permanent, primitive camps where minimum impact practices are used may be considered when no alternative exists
* SRP contains stipulations appropriate for maintaining the area's resource/social objectives	* Same as Class I	* Same as Class I

TABLE 5 C
COMPARISON OF MANAGERIAL POLICIES & GUIDELINES
Bureau of Land Management, Arizona Strip District

MANAGERIAL POLICIES & GUIDELINES

OPPORTUNITY CLASS I	*OPPORTUNITY CLASS II*	*OPPORTUNITY CLASS III*
CULTURAL RESOURCES:		
* To the maximum extent possible, cultural resources will remain in an undisturbed state, subject only to the forces of nature	* Generally, cultural resources will remain in an undisturbed state, subject only to the forces of nature	* Same as Class II
* Proposals for scientific study will be scrutinized to ensure that project will not conflict or compromise resource/social settings and that proposal is necessary to preserve significant cultural resource information	* Same as Class I	* Same as Class I
* Surface-disturbing management activities will be discouraged if data can be obtained in other areas	* Surface-disturbing management activities will be discouraged if data can be obtained in other areas or if activity will result in benefit to recreation opportunities	* Same as Class II
* Any management undertaking which may affect a cultural resource property that meets criteria for inclusion on National Register of Historic Places requires compliance with Section 106 of the National Historic Preservation Act and 36 CFR 800	* Same as Class I	* Same as Class I
* No sites are allocated to public use	* Several properties may be allocated to public use and site interpretation may be done to enhance recreation experience opportunities	* Appropriate properties will be allocated to public use and site interpretation may be done to enhance recreation experience opportunites
* Field inventories and monitoring known sites 3rd priority behind Opportunity Classes II and III	* Field inventories and monitoring known sites 2nd priority behind Opportunity Class III	* Field inventories and monitoring known sites generally 1st priority ahead of other opportunity classes
* Cultural properties are accorded protection under all pertinent laws and regulations with full consideration given to resource and social objectives for the area	* Same as Class I	* Same as Class I
* Historical structures remain	* Same as Class I	* Same as Class I

TABLE 5 C
COMPARISON OF MANAGERIAL POLICIES & GUIDELINES
Bureau of Land Management, Arizona Strip District

MANAGERIAL POLICIES & GUIDELINES

FIRE MANAGEMENT

OPPORTUNITY CLASS I	*OPPORTUNITY CLASS II*	*OPPORTUNITY CLASS III*
* FMP emphasizes the role of natural fire to control unnatural fuel buildups and allow natural processes to operate without catastrophic wildfire events	* FMP allows for the role of natural fire	* FMP strives toward allowing for role of natural fire
* Fire that threatens human life or property in the wilderness or life, property or resources outside is controlled	* Same as Class I	* Same as Class I
* Suppression options range from observation to containment on natural ignitions	* Suppression options allow for observation, modified attack, and containment as conditions dictate on natural ignitions	* Suppression options on ecologically stable sites same as Opportunity Class II. Suppression action is aggressive attack and control of natural ignitions on unstable sites
* Human-caused ignitions are controlled	* Human-caused ignitions are contained or controlled	* Human-caused ignitions on stable sites are contained or controlled. On unstable sites, aggressive attack and control
* Suppression action taken uses techniques that result in least possible surface/vegetative impact	* Suppression action taken uses techniques that result in least possible surface/vegetative impact	* Suppression action taken techniques uses techniques that result in least possible surface/vegetative impact. Where escaped fire analysis on unstable sites determines need, heavy equipment and other motorized use is allowed
* Appropriate rehabilitation measures are determined following any fire greater than 5 acres on sensitive soils	* Appropriate rehabilitation measures are determined following any fire greater than 5 acres involving sensitive soils or where high-quality primitive recreation settings require restoration	* Appropriate rehabilitation measures are determined following any fire protect sensitive soils or contribute stabilization of ecological components
* Prescribed burning is not done	* Prescribed burning is possible for restoration of fire regime only	* Same as Class II
* Naturally ignited fire will be allowed to burn under prescribed conditions	* Same as Class I	* Same as Class I

EMERGENCY SERVICES:

Search and rescue responsibilities and procedures are clarified and coordinated with Mojave County authorities and the National Park Service, Grand Canyon National Park, to provide timely and appropriate response where life-threatening or visitor safety situations occur. All permanent and seasonal BLM personnel who work in the Mt. Trumbull area are to be familiar with any procedures prescribed in a plan. A plan establishes strict criteria under which helicopter use is allowed for life-threatening situations. Helispots are not pre-constructed but are located and cleared when they are needed. Natural clearings conducive to safe helicopter landings are to be identified as part of a plan

TABLE 5 C
COMPARISON OF MANAGERIAL POLICIES & GUIDELINES
Bureau of Land Management, Arizona Strip District

MANAGERIAL POLICIES & GUIDELINES

LIVESTOCK GRAZING:

OPPORTUNITY CLASS I	*OPPORTUNITY CLASS II*	*OPPORTUNITY CLASS III*
* Allotments managed for utilization within the limits established by the standard for the range indicator for Class I	* Allotments managed for utilization within the limits established by the standard for the range indicator for Class II	* Allotments managed for utilization within the limits established by the standard for the range indicator Class III
* Livestock numbers are generally managed at the active preference at the time of designation. Any increases and/or decreases are considered as per AZ-IM-87-55 and WO-IM-87-142		
* Change of class of livestock are considered when change would not adversely affect or change ecological objectives		
* Nonmotorized access and maintenance of any improvements present	* Motorized access and maintenance considered only where such use previously existed. Maintenance on any new structures is nonmotorized	* Motorized access and maintenance considered primarily where such use previously existed. Maintenance on new structures may be motorized when no other alternative exists
* A list of all existing range developments within the wilderness is to be compiled, the permittee(s) notified of both the nonmotorized and motorized maintenance requirements, and the maintenance decision made a condition of the AMP and/or grazing permit		
* New structures not considered	* New structures considered if benefit to wilderness values clearly shown	* New structures considered when needed to protect wilderness and/or resource
* Prescribed burning not considered	* Prescribed burns considered only to correct human-caused resource instability	* Prescribed burns considered where method was previously used or if necessary to correct man-caused resource instability
* Strong consideration given to relocating existing structures that require major reconstruction or costly new maintenance if new location will serve intended purpose	* Consideration given to relocating existing structures that require major reconstruction or costly maintenance if location will serve intended purpose	* Same as Class II

INSECTS AND DISEASE:

OPPORTUNITY CLASS I	*OPPORTUNITY CLASS II*	*OPPORTUNITY CLASS III*
* Any programs developed to control the spread of insects and/or disease must be approved prior to implementation by the Director, BLM		
* Treatments for control possible only when T&E are threatened within the area, when resources outside are threatened from wilderness source, or when man-caused	* Treatment considered where source is man-caused and trend is toward exceeding ecological standards or when T&E are threatened within area	* Treatment considered where control is needed to protect off-site resources, when source is man-caused and trend is toward exceeding ecological standards or when T&E are threatened
	* Decisions consider recreation user attitudes toward control	
* Control measures maximize use of natural, biological techniques on site-specific basis	* Control measures stress use of natural biological techniques with areawide application	* Same as Class II

TABLE 5 C
COMPARISON OF MANAGERIAL POLICIES & GUIDELINES
Bureau of Land Management, Arizona Strip District

MANAGERIAL POLICIES & GUIDELINES

OPPORTUNITY CLASS I	*OPPORTUNITY CLASS II*	*OPPORTUNITY CLASS III*
ADMINISTRATION:		
* No communication facilities	* Communication facilities possible only for public safety	* Communication facilities possible when no reasonable alternatives exists to accomplish administrative purposes
* Scientific study possible provided it is dependent on wilderness setting, it provides information that contributes to better wilderness management, and the methods and timing are compatible with resource and social standards for the particular opportunity class		
* No new administrative or other structures	* Administrative structures consider only for public safety; other new structures considered only for protection of wilderness values or wilderness benefit	* Administrative structures considered when no reasonable alternative to accomplish administrative purposes; other new structures considered only when necessary to protect wilde range resources
* Strong consideration given to removing existing administrative structures * Strong consideration given to relocating other structures that require major reconstruction or costly maintenance if new location will serve intended purpose	* Consideration given to relocating both administrative and other structures that require major reconstruction or costly maintenance if new location will serve intended purpose	* Same as Opportunity Class II

Source: District files

TABLE 6
COMPARISON OF LAC INDICATORS/STANDARDS

Bureau of Land Management, Arizona Strip District

FACTOR	INDICATOR	CLASS I STANDARD	CLASS II STANDARD	CLASS III STANDARD
RESOURCE:				
A. Campsite Conditions	1. Number of campsites per 500-acre area	No more than 1site	No more than 3 sites	No more than 5 sites
	2. Number of impacted sites/500-acre area exceeding a given impact rating	Highly impacted (0) Moderately impacted (0) Minimally impacted (1)	Highly impacted (0) Moderately impacted (1) Minimally impacted (2)	Highly impacted (0) Moderately impacted (2) Minimally impacted (3)
B. Vegetative Conditions	1. Overall ecological condition of potential natural plant communities *	Not below excellent	Not below good	Not below fair
	2. Percent utilization of key forage **	No more than 15%	No more than 25%	No more than 35%
C. Man's Influence	1. Developments per 500-acre area	No more than 1	No more than 3	No more than 5
SOCIAL :				
D. Solitude (as affected by recreation users)	1. Number of other recreation parties encountered per day while traveling	80% probability of no more than 1 encounter	80% probability of no more than 2 encounters	80% probability of no more than 4 encounters
	2. Number of other parties camped within sight/sound per day	90% probability of no encounters	90% probability of no more than 1 encounter	90% probability of no more than 3 encounters
E. Solitude (as affected by other users)	1. Number of encounters per day with non-recreational parties	80% probability of no encounters	80% probability of no more than 3 encounters	80% probability of no more than 3 encounters

* Ecological condition is not a true "indicator;" it is more of a rating system or a "factor." We are using ecological condition and the standards as guidelines to direct field evaluations and management decisions. As we refine our monitoring process, we will identify key vegetative species and standards which will better reflect natural, ecological plant composition.

** Current livestock utilization levels are generally below the standard mentioned here. If the standard for utilization is approached or exceeded a more in-depth evaluation of the cause of the increased utilization will be triggered. Adjustments to livestock numbers will not be based on this standard.

Source: District files

PART VI ENVIRONMENTAL ASSESSMENT

INTRODUCTION

This environmental assessment (EA) will address the general impacts of the management plan and will present alternative actions for resolving management issues and concerns. The analysis of site-specific impacts associated with project developments such as trail construction are not addressed in this environmental assessment. This level of assessment will be carried out on a project-by project basis during the plan implementation period. The intent of the project-level assessment will be to determine if the project, as proposed and designed, is consistent with the objectives of the wilderness management plan and to assess the nature and magnitude of any environmental impacts.

PURPOSE AND NEED

Prior to the interim protection provided by Wilderness Study Area status and the subsequent permanent protection mandated by their inclusion in the National Wilderness Preservation System in 1984, the Mt. Trumbull and Mt. Logan Wildernesses were subject to impacts resulting from past human use. Generally, these were impacts from livestock grazing, fire suppression, timber harvesting, wildlife management and the development of roads to service these activities. The impacts from these uses caused changes to the natural, scenic, vegetative, cultural and recreation resources inherent in the wilderness areas. Were these areas not designated, these human uses over time would have continued to reduce, or possibly even eliminate the unique values which wilderness designation recognized.

The purpose of the actions proposed in the Mt. Trumbull-Mt. Logan Wilderness Management Plan is to carry out the intent of Congress to protect and preserve these areas for the use and enjoyment of present and future generations. The plan proposes to do this by managing the human use that occurs within the areas. The array of management actions in both the proposed action and Alternative A are directed at maintaining and/or enhancing the wilderness values of natural settings, opportunities for visitor solitude, opportunities for various forms of primitive and unconfined recreational activities, and the various other features of scenic, scientific, educational or historical value.

PROPOSED ACTION AND ALTERNATIVES

Proposed Action

The proposed action is the Draft Mt. Trumbull-Mt. Logan Wilderness Management Plan as described in the preceding sections. The primary emphasis of the proposed action is to maintain or enhance existing resource and social wilderness values. It is also directed toward correcting, where possible, any areas of existing substandard wilderness conditions in Opportunity Class areas, I, II or III. Those actions that are aimed at maintaining existing acceptable resource and social conditions through monitoring, study or off-site visitor use awareness techniques are not described here. Those proposals that could have an environmental effect are described below.

RESOURCE SETTING

a) Remove abandoned material, evidence of car camping and flagging, stumps at Mt. Trumbull summit and the Grand Canyon boundary fence.

b) Paint wildlife catchments to blend into the surrounding environment.

c) Rehabilitate and protect the Pa's Pocket area.

d) Rehabilitate portions of the Mt. Trumbull trail, all pipeline corridors, Coyote Cabin area and substandard campsites.

e) Develop a trailhead facility in the Nixon Flat area.

f) Allow natural fire to burn without suppression action under certain conditions.

g) Write a prescribed burn prescription for the ponderosa pine areas that have been thinned.

h) Acquire private inholdings and retain the RAWS station.

i) Use minimum tool policy for controlling motorized and mechanized use.

SOCIAL SETTING

a) Barricade and sign all roadways entering the wilderness area except the open Slide Mountain Hells Hollow road corridor.

b) Install visitor registers

c) Inventory cultural resources.

d) File for water rights on unappropriated unreserved springs.

e) Solicit volunteers to help perform the management actions selected in this plan. Solicit more effective law enforcement.

f) Provide user behavior information.

Alternatives Analyzed

Alternative A

The primary emphasis of Alternative A is to maximize both natural and social wilderness values. This alternative focuses on methods of providing information about the wilderness to the recreational user.

This alternative is similar to the proposed action except it strives to maximize the opportunities to enhance both the visitors' experience and their awareness of the resource and social setting through off-site information. The Opportunity Classes described in the management plan are fully incorporated into this alternative. Many of the actions are basically the same as those of the proposed action; however, they differ in one or more of the following ways. 1) more restrictive 2) more aggressive in correcting or enhancing existing conditions 3) a greater level of trail development and use 4) a greater commitment to visitor information and interpretation.

Those actions that could have an environmental effect and are significantly different than the proposed action are described below. (A complete listing of all management actions developed in Alternative A is available at the Vermillion Resource Area Office)

RESOURCE SETTING

a) Relocate wildlife catchments outside wildernesses.

b) Permanently close Pa's Pocket area to livestock use and more aggressively rehabilitate the area.

c) Interpret USGS site at summit Mt. Trumbull.

d) Remove SRP camera.

e) Close car camp areas.

f) Establish additional hiking trails.

SOCIAL SETTING

a) Establish a recreation permit system and group size limits.

b) Provide a comprehensive visitor brochure.

Alternative B (No Action)
The No Action Alternative would comply with the 1964 and 1984 Wilderness laws. It would be directed toward maintaining the wilderness character at or slightly better than the condition the wilderness was in at the time of designation.

Under this alternative there would be no Opportunity Classes as described in the Management plan. Management emphasis generally would be reactive; responding to issues and concerns as they arise. Each action or proposed use would be evaluated on its own merit, using the Wilderness Act and Bureau policies and regulations as guidance.

Under the No Action Alternative the following items would need attention: car camping at Nixon Springs and on the Slide Mountain cherry stem road, removal of the flagging and the USGS materials on Mt. Trumbull, incorporation of the fire suppression strategy into the district fire plan, determination of the minimum tool for administrative use and for maintaining both range and wildlife projects and barricading or signing the existing access including the Mt. Logan private land access.

The actions defined in this alternative would be the minimum required to correct an existing substandard resource situation or an unauthorized activity. In addition there would be very few or no actions aimed at enhancing wilderness values beyond those required by laws.

(A complete listing of all management actions developed for the No Action Alternative is available at the Vermillion Resource Area Office)

Other Alternatives Considered But Rejected

Alternative C
Under this alternative the Mt. Trumbull and Mt. Logan Wildernesses would be managed entirely under the objectives and policies developed for Opportunity Class I as defined in the Wilderness Plan. Opportunity Class I maximizes preservation of high quality natural resource settings and minimizes on-site human presence and influences.

This alternative was rejected due to the cumulative effect of many pre-wilderness uses and resource disturbances found in several areas of the wildernesses. In these areas, the Class I objectives would either not be achievable during the life of the plan or would not ever be achievable due to the permanent presence of existing roads and improvements that are allowed to remain by congressional provision.

Alternative D
Under this alternative, the Mt. Trumbull and Mt. Logan Wildernesses would be managed entirely under the objectives and policies developed for Opportunity Class II as defined in the Wilderness Plan. Opportunity Class II is very similar to Class I except it allows for greater emphasis on providing for recreational opportunities and, thus raises the possibility of greater managerial presence in administering visitors.

This alternative was considered, however, because of the existing resource and social conditions described in Opportunity Class I and III this alternative was not considered to be the best way to develop a recreation enhancement alternative. Instead, Alternative A more adequately addresses management actions, to maximize recreational information and user experiences without compromising other wilderness values.

Alternative E
Under this alternative, the Mt. Trumbull and Mt. Logan Wildernesses would be managed entirely under the objectives and policies developed for Opportunity Class III as defined in the Wilderness Plan. Opportunity Class III allows for greater flexibility in management actions and managerial presence to rehabilitate impacts to wilderness conditions resulting from past management practices.

This alternative was rejected because it was felt that managing the entire wilderness acreage for the conditions desired in Opportunity Class III could result in the slow deterioration of the excellent resource and social conditions that currently exist over most of both areas (see Existing Situation narratives for Opportunity Class I and II in the management plan). It was also felt that this alternative is very similar to the No Action Alternative, which is further addressed in this environmental assessment.

AFFECTED ENVIRONMENT

For information on the existing environment, see Parts I and V in the wilderness management plan. For additional information, refer to the Mt. Trumbull Habitat Management Plan, the Mt. Logan, Tuweep and Big Springs Allotment Management Plans or other resource information available at the Resource Area Office.

ENVIRONMENTAL CONSEQUENCES

Proposed Action

RESOURCE SETTING

Under the proposed action, BLM would coordinate with Grand Canyon National Park on management activities taking place along the mutual boundary. Such coordination would moderately benefit natural values by insuring compatible management direction for the southern Uinkaret Mountain area. The removal of the boundary fence and the continued vegetative recovery of the fenceline would moderately enhance the natural appearance of the area while not adversely affecting the livestock grazing program in an area of little or no utilization. The coordination of fire suppression and emergency service strategies would help ensure that unwanted interruptions to the desired resource setting do not occur.

The identification and utilization of natural clearings for helispots rather than constructing and maintaining helispots would further preserve essentially unmodified resource settings.

The greatest changes to ecological condition were caused by past livestock grazing practices, timber harvesting activities and fire suppression. The proposed action would restore the potential natural plant communities by changing past livestock management practices, prescribing conditions in which fire would be allowed to burn and by providing time for natural processes to work. These actions would enhance vegetative, soil and wildlife resources in the wilderness while reducing human influences. Additionally, the good to excellent ecological conditions which do exist in the majority of the wildernesses would benefit from the continuous monitoring which is proposed. Botanical studies of these areas would benefit natural values by providing BLM with better baseline information from which the most appropriate management decisions can be made.

The proposed action requires a wilderness fire management plan (FMP) which defines conditions and prescriptions under which fire would be allowed to play an unencumbered natural role. This would allow nature a greater hand in determining vegetative patterns and types. By allowing natural fires to burn there is a high probability that more acreage would burn. The wilderness fire management plan would also define the conditions under which areas currently in highly altered ecological condition may be treated with prescribed burning. Treating these areas would, in the long run, greatly enhance ecological condition, the natural appearance of these areas (by significantly reducing unnatural accumulations of heavy fuels), wildlife habitat, nutrient recycling and would reduce the threat of catastrophic fire to commercially valuable resources or structures on non-wilderness lands.

The livestock grazing program would be guided by the minimum tool policy and the actions described in the plan. These actions would reduce past motorized use (see Appendix D) and help restore the potential natural plant compositions, thereby benefiting the vegetation, soil, water quality, water quantity and wildlife resources in the wilderness.

The use of indicators and standards for monitoring and evaluating campsite conditions would ensure that visitor impacts to the resource settings would not exceed acceptable levels. Reevaluating the various resource setting indicators and standards throughout the life of the plan would benefit natural resource values by determining the effectiveness of the indicators and standards in maintaining or achieving the resource and social objectives.

Discouraging and/or eliminating car camping along the wilderness boundaries would slightly enhance resource conditions in most areas. The actions proposed in the Nixon Flat area would virtually eliminate long-standing impacts of unauthorized visitor use in that area, thereby enhancing naturalness.

The proposed action would benefit natural values in the wildernesses by managing wildlife habitat and directing any on-site species management toward maintaining or restoring the natural balance of species with their habitats. Favoring native species over non-native species would contribute to that balance. This could necessitate reducing or eliminating non-native species in the wildernesses. The procedures proposed for management of T&E species and predators recognizes the value of these species in wilderness and would insure their perpetuation. Monitoring the potential conflict between Kaibab squirrels and Ponderosa pine would provide information to predict whether corrective action is necessary to prevent degradation of a native species by a non-native species. Providing wilderness information to hunters in the area would contribute to offsetting visitor impacts to the resource setting, thereby retaining naturalness. Painting the wildlife catchments to reduce their visual contrast would moderately enhance the natural appearance of the landscape in the vicinity of each.

The combination of actions proposed for trail management in the wildernesses would ultimately maintain natural values in most of the wildernesses and restore natural values in areas that currently exceed the standards for the limits of acceptable change. Removing the evidence of past uses on Mt. Trumbull (flagging, sign, USGS refuse) would reduce the influence of man and enhance the natural appearance of the area. The proposed trailhead facility would provide a focal point for entry to the Mt. Trumbull Wilderness. This would concentrate visitor impacts to a single corridor of transition from nonwilderness to wilderness and virtually eliminate these impacts from the remainder of the vicinity. Maintenance proposed for the summit trail would prevent further erosion on sections which are now eroding. By doing the minimum necessary to maintain the trail, rather than upgrading it, very little new surface disturbance would occur. In proposing no new trails, the opportunities for traveling and interacting in unmodified environments would be retained.

The procedures proposed for management of special recreation permits would ensure that undue impacts to soils and vegetation by incompatible commercial services will be avoided.

In the long run, the combination of protective actions proposed for the management of cultural properties would be highly beneficial to these valuable wilderness resources, ensuring their preservation. Inventory and study will provide more baseline data about the type and number of significant properties, which would better focus monitoring and compliance efforts where they are needed to protect resources. Cleanup of the cabin area at Coyote Spring will enhance the natural appearance of the area.

Filing for water rights on various unappropriated springs and careful management of their use will ensure minimum quantities of water for wildlife, vegetation and present and future recreational needs. Any spring development has the potential, in the short term, to slightly impact natural appearance on a localized basis. The potential benefits to wildlife and recreation values in the long term are moderate. (Any significant spring development proposed will undergo environmental assessment and 30-day notification to interested publics at the time of theproposal.)

The process proposed for dealing with potential insect and disease infestations would ensure that natural occurrences are generally allowed to run their course, thereby maintaining natural processes.

Soliciting volunteer services during the implementation of the proposed action would significantly aid in acquiring needed inventories, in the monitoring of both natural resources and visitor activities and in expediting many corrective and enhancing measures proposed for the wilderness.

In establishing more effective law enforcement, the proposed action would, in time, greatly benefit natural values at risk by maximizing managerial presence as a deterrent in areas where unauthorized acts are most likely--along wilderness boundaries.

The continued use of the district's policy and procedure for administrative use of motorized vehicles and mechanized equipment will ensure that these uses are kept to the very minimum necessary to accomplish administrative functions. This, in turn, would ensure that administrative functions do not degrade the desired wilderness conditions.

The various actions proposed to remove abandoned structures, close interior roads, sign the boundaries and manage the Slide Mountain-Hell's Hollow Road would benefit natural values by correcting those areas that are currently substandard and by maintaining the majority of the wilderness which is unmodified by human activity.

Acquiring the private land at Big Spring would benefit natural resource values in the long run by removing the potential for land use incompatible with wilderness management.

The RAWS station in the Mt. Logan Wilderness will continue to contrast with the surrounding landscape, moderately impacting the natural appearance of the vicinity.

SOCIAL SETTING

Painting the wildlife catchments, removing the summit trail sign and flagging to reduce the visual contrasts would slightly enhance a visitor's likelihood of interacting with natural environments by making the catchments less noticeable. Likewise, filing for water rights on unappropriated springs and preserving their natural flow would maintain a natural environment in which the visitor may travel.

Actions identified for emergency services, administrative use of motorized/mechanized equipment and public hazards would minimize the number of visitor encounters with administrative personnel; ensuring the maximum amount of solitude possible and minimizing the amount of visitor regulation. These actions would also maintain, to the extent feasible, a high degree of natural risk and challenge.

The construction and use of a trailhead facility at Nixon Flat would help maintain the existing, acceptable levels of solitude throughout the majority of both wildernesses. Dispensing off-site hunter information, installing and servicing new visitor registers and monitoring the indicators of solitude (type and number of encounters with others) would all contribute to maintaining high to outstanding opportunities for solitude in most of the wildernesses. These actions would maintain or improve moderate opportunities for solitude in the Class III areas. The information disseminated would inform visitors of wilderness etiquette toward other visitors as well as present alternative experience opportunities both on- and off-site. Monitoring the indicators of solitude would allow BLM to respond quickly to any decline in the quality of the opportunities for solitude with actions to adjust visitor use patterns or to regulate visitor use.

The procedures proposed for special recreation permits and group size limits would maintain the levels of solitude by monitoring the effects of commercial services and large group sizes on opportunities for solitude. Monitoring would allow timely responses to circumstances that are incompatible with the desired social setting.

Alternative A

RESOURCE SETTING

Generally, the benefits to resource and social settings of selecting the array of management actions in Alternative A are greater than those of the Proposed action. Most of the basic management actions are the same as the Proposed action; however, Alternative A goes beyond the basic action needed to rectify problems or maintain the status quo and fully takes advantage of management opportunities.

The many actions possible under Alternative A involving greater user awareness would contribute greatly to minimizing visitor impacts to the resource settings. Building and promoting new trails, while creating a temporary minor surface disturbance, would result in a dispersal of visitor use and associated impacts to soils and vegetation. Maximizing the use of a trailhead facility for disseminating visitor information off-site would also benefit the resource setting by encouraging broader visitor use patterns throughout both wildernesses.

The reseedings, plantings and prescribed burns proposed in this alternative would accelerate the current natural revegetation, thereby enhancing natural values sooner. The actions proposed in the Pas Pocket area would not only accelerate restoration but would maintain the restored state by closing the area to uses that would re-impact soils and vegetation.

SOCIAL SETTING

The actions proposed by Alternative A to provide the maximum amount of visitor information possible would heighten the awareness of visitors with regard to these wildernesses. The brochure with minimum impact traveling and camping information would benefit solitude by encouraging visitors to leave no trace of their use. Alternative A would reduce the chances of visitor encounters by dispersing visitors throughout the wildernesses and group size limits. Establishing a permit system would give immediate control of the numbers of visitors using the wilderness, which would prevent overcrowding.

The cumulative effect of the actions proposed by this alternative would be one of greater managerial presence and restriction. Risk and challenge would also be moderately reduced.

Alternative B (No Action)

The No Action Alternative would provide BLM managers the greatest flexibility in managing wilderness because of a lack of philosophical focus, a lack of recognition for the different resource and social settings present and a lack of an integrated strategy. Indicators or standards or predetermined specific objectives or policies would not be present.

The beneficial impacts of this alternative would be to reduce management presence, simplify management strategies, allow natural processes to dominate, focus on non-conforming but acceptable uses and valid existing rights and, through the minimum tool policy, reduce motorized and mechanized uses over pre-designation conditions.

The disadvantages of this alternative are that no long-term integrated management strategy would result in management inconsistencies and poor intra-or inter-agency coordination. Additional adverse impacts could result from allowing illegal or unauthorized activities in the wilderness due to the lack or reduced monitoring and enforcement. Because the alternative would not provide information for the potential users, most would be less informed and less aware of the opportunities, hazards and concerns. Under this alternative there would be very little to no baseline data gathered, possibly allowing certain past human influences to continue to degrade the wilderness resources and/or values.

Through fire suppression, wildlife and livestock management the biological resources would be expected to improve. This improvement would be slow and not focused on wilderness enhancement but more on the individual program goals. The greatest disadvantage or adverse impact from the selection of this alternative would come from the lack of wilderness-enhancing opportunities. A number of actions in the Proposed action aimed at enhancing either the natural or recreational values in these areas would not be accomplished.

LITERATURE CITED

None

CONSULTATION AND COORDINATION

*** Vermillion Resource Area Staff**

*** Arizona Strip District Staff**

*** Arizona Game and Fish Department**

*** MTW/MLW WMP Steering Committee**

Ed Norton	Grand Canyon Trust
Oly Olson	Grand Canyon National Park (North Rim)
Pete Weinel	Tonto National Forest

* Ray Schmutz,	Tuweep Allotment
* Anthony Heaton,	Big Spring Allotment
* Cecil Blake,	Mt. Logan Allotment

APPENDIX A

MT. TRUMBULL / MT. LOGAN WILDERNESS

FIRE MANAGEMENT PLAN

INTRODUCTION

The Mt. Trumbull and Mt. Logan Wilderness areas lie approximately 80 miles south/southeast of St. George, Utah on the Arizona Strip.

Mt. Trumbull Wilderness is 7,900 acres in size and Mt. Logan Wilderness is 14,600 acres in size.

Vegetation in the Mt. Trumbull Wilderness is primarily pinyon-juniper and ponderosa pine. Other plant species found in the wilderness include oak, locust and a variety of shrubs, grasses and forbs. Vegetation in the Mt. Logan Wilderness is also primarily pinyon-juniper and ponderosa pine. See the Mt. Trumbull/Mt. Logan Wilderness Management Plan for a more complete description of vegetation.

This plan will guide fire management in the Mt. Trumbull and Mt. Logan Wilderness areas.

PART X APPENDICES

OBJECTIVES FOR FIRE MANAGEMENT IN WILDERNESS

Objectives relating fire management to other resource programs, public safety, protection of property and legislative and administrative policies will guide the fire management program in the Mt. Trumbull and Mt. Logan Wilderness areas.

The wilderness management plan has divided these wilderness areas into three "opportunity classes" or management zones. The following are fire management objectives for each wilderness area by wilderness opportunity class.

Class I--Emphasize the role of natural fire to control unnatural fuel buildups and allow natural processes to operate without catastrophic wildfire events. Control fires that threaten human life or property in the wilderness or life, property or resources outside the wilderness.

Class II--Allow for the role of natural fire and control fires that threaten human life or property in the wilderness or life, property or resources outside the wilderness.

Class III--Strive toward allowing for the role of natural fire and control fires that threaten human life or property in the wilderness or life, property or resources outside the wilderness.

FIRE HISTORY

Historically, the majority (over 90%) of fires in the Mt. Trumbull and Mt. Logan Wilderness areas have been caused by lightning. Aggressive initial attack has kept fires from consuming large acreages.

Most of the fires in Mt. Trumbull Wilderness are on the western and southern slopes of the mountain, predominantly in the pinyon-juniper vegetation type,although a few have occurred on top of the mountain in the ponderosa pine type.

Most of the fires in the Mt. Logan Wilderness occur in the northwestern portion in the ponderosa pine type. This particular area is where a pre-commercial thinning took place about 15 years ago with the decomposing slash still lying on the ground.

FIRE REGIME

A natural fire regime is the total pattern of fires that occur over time, characteristic of a natural region or ecosystem, variations in ignition, fire intensity and behavior, fire size, recurrence intervals and ecological effects.

The ponderosa pine type in a natural condition is classified as a (2) on the Heinselman Continental Fire Regime Scale--"Frequent light surface fires (1 to 25 year return intervals)". The pinyon-juniper woodlands really do not fit the scale due to a lack of ground fuels.

NATURAL ROLE OF FIRE

Fire has long been an important component of the ponderosa pine ecosystem. The ponderosa pine is a very fire tolerant species. Before man started suppressing fires in the pine type, light surface fires would periodically burn through the understory. This reduced the buildup of ground fuels, created natural fire breaks, created and improved wildlife habitat and recycled important nutrients back into the soil. The return interval of these light surface fires is from 3 to 7 years. Years of fire suppression has changed this situation. Unnatural fuel buildups now exist--increasing the likelihood of a catastrophic wildfire. This is especially true in the Mt. Logan Wilderness where pre-commercial thinning slash is lying on the surface.

The pinyon-juniper vegetation type is not greatly affected by fire. Much of the area in this type does not contain enough surface fuel to carry a fire and the trees are spaced far enough apart so that fires cannot jump from tree to tree except in the most extreme burning conditions. Typically, fires in this type are isolated to one tree or a small group of trees.

PROPOSED DEGREE OF SUPPRESSION

BLM policy states that fires occurring on public lands are either wildfires or prescribed fires. BLM is responsible to suppress all wildfires on public land. In order to allow naturally ignited fires to burn on public lands, they must be designated as prescribed natural fires and a prescription must be prepared before the fire starts. The following action plan will outline fuel models and associated prescriptions for each management class in each wilderness, steps that will be taken upon the report of an ignition, management constraints and a section on how fires will be monitored.

Fuel Models and Prescriptions

There are three classified fuel types and one unclassified fuel type in the two wilderness areas.

NFDRS Fuel Model C

Open ponderosa pine stands typify Model C fuels. Perennial grasses and forbs are the primary ground fuels but there is enough needle litter and branchwood present to contribute significantly to the fuel loading. Some brush and shrubs may be present but they are of little consequence. Situations covered by Fuel Model C are open, long-leaf, slash, ponderosa, Jeffrey and sugar pine stands. Some pinyon-juniper stands may qualify.

This fuel model represents the Mt. Trumbull Opportunity Class I area.

Prescription:

The following prescription criteria will be used for fuel model C.

Temperature	< 75
Minimum Relative Humidity	> 20%
10 Hr. Fuel Moisture	> 15%
1,000 Hr. Fuel Moisture	> 20%
20 Ft. Windspeed	< 10 mph
Live Fuel Moisture	> 130%

Five of the six criteria outlined above must be met before the fire is considered to be in prescription. The weather information will be obtained from the Logan Remote Automated Weather Station (RAWS) until personnel are on the fire.

NFDRS Fuel Model K

Slash fuels from light thinnings and partial cuts in conifer stands are represented by fuel model K. Typically the slash is scattered about under an open overstory. This model applies to hardwood slash and to southern pine clearcuts where the loading of all fuels is less than 15 tons/acre.

This fuel model represents the majority of Mt. Logan Opportunity Class III. Fires in this type will be suppressed until the slash problem is cleared up and the area is more representative of fuel model C.

NFDRS Fuel Model F

Fuel model F represents mature closed chamiso stands and oakbrush fields of Arizona, Utah, and Colorado. It also applies to young, closed stands and mature, open stands of California mixed chaparral. Open stands of pinyon-juniper are represented; however, fire activity will be overrated at low windspeeds and where there are sparse ground fuels.

Prescription

The following prescription criteria will be used for fuel model F.

Temperature	< 85
Minimum Relative Humidity	> 10%
10 Hr. Fuel Moisture	> 5%
20 Ft. Windspeed	< 15 mph

This information will be gathered from the Logan RAWS station and corrected for elevation. If ground monitors are dispatched to a fire in this fuel type, weather observations will be made on site.

Mt. Trumbull Opportunity Class II and III and Mt. Logan Opportunity Class I and II are represented by this model.

Unclassified Pinyon-Juniper

This includes those areas of pinyon-juniper where there is not enough of an understory to carry surface fires. The prescription for these areas is the same as for fuel model F.

This type occurs in Mt. Trumbull Opportunity Classes II and III and Mt. Logan Opportunity Class II.

Action Following the Report of an Ignition

Immediately following the report of a lightning fire within either of the wilderness areas the area manager or his designated wilderness resource advisor along with the district fire management officer or fire control officer will fly aerial reconnaisance over the fire and make a recommendation as to the type of action to be taken. The district logistics coordinator will advise the reconnaisance personnel of the current weather conditions and will assign a fire number to be used until a decision is made on the type of action to be taken. The district manager, or his designated representative, will make the decision as to what action will be followed. If a fire appears that it may be of significance a wilderness resource advisor will be immediately dispatched to the fire to provide guidance to the incident commander on wilderness considerations in the supression effort. A decision matrix (attached) will be used as a guide in making this decision. The decision matrix will be reviewed daily to ensure that all items are considered on a daily basis. The decision matrix is set up so that the first decision that must be made is the fuel type that is burning and which matrix to follow. This decision will be made as follows:

Fuel Model K

This is the model used for the area of pre- commercial thinning slash area of Mt. Logan. If the fire is determined to be located in this fuel type immediate suppression will take place.

Fuel Model C

This is the model used for the ponderosa pine stands on top of Mt. Trumbull and the ponderosa pine stands around Slide Mountain and Mt. Emma. The principal fuel carrying a fire in this type is grass and needle cast. Under the prescription outlined above, the fire will not involve the trees for the most part. If a fire is determined to be located in this fuel type, fuel model C, of the decision matrix will be used as a guide as to whether to call the fire a prescribed natural fire or to suppress the fire.

Fuel Model F and Unclassified Pinyon-Juniper

Fuel model F applies to the stands of oakbrush and other chapparal vegetation as well as the more dense stands of pinyon-juniper located in both of the wilderness areas. The unclassified pinyon-juniper stands include those areas that do not contain enough ground fuel to carry a fire. If a fire is determined to be located in these types, fuel model F and unclassified of the decision matrix will be used as a guide as to whether to call the fire a prescribed natural fire or suppress it.

Suppress the Fire

Should the fire appear to need suppression action the logistics coordinator will dispatch the appropriate initial attack forces and suppression costs will be charged to fire suppression funds (4620).

The minimum tool concept will be used in the suppression of fires in the Trumbull/Logan Wilderness Areas. Priority will be given to methods that least disturb natural features. These include handcrews and engines operating from wilderness boundary roads. If these resources can not handle the fire the next resource consideration will be the use of aircraft including both retardant planes and helicopters using water bucket drops. The use of motorized vehicles and aircraft in the wilderness areas requires approval by the district manager (except under urgent situations; in which the incident commander will make the decision). Power saws may be used in the wilderness areas as deemed necessary. Fire in the critcal fuel load area of Mt. Logan will require concerted suppression efforts which may even include the use of bladed lines. Blade-equipped vehicles will only be used as a last resort in the wilderness areas upon approval by the district manager. All bladed lines will be rehabilitated and charged against the suppression effort. Any suppression action involving motorized equipment occurring in the wilderness areas will be documented and made part of the wilderness management file.

Declare the Fire a Prescribed Natural Fire

If the decision is made to declare the fire a prescribed natural fire the following actions will be taken:

Mt. Trumbull Opportunity Class 1

The district manager will designate a prescribed burn manager for the fire. If there is more than one fire a prescribed fire manager will be assigned to each fire. The prescribed fire manager will be responsible for managing the fire. During the months from May 1 to August 31 the initial job of the prescribed fire manager will be to establish a perimeter of approximately 100 acres utilizing existing barriers wherever possible. Any remaining perimeter will be constructed using handtools. He will then be responsible to monitor the fire as outlined in the Monitoring and Documentation section that follows. During the months from Sept 1 to April 30 no perimeter construction will be required but may be used as conditions dictate.

Mt. Trumbull Opportunity Class 2 & 3
Mt. Logan Opportunity Class 1 & 2

A prescribed fire manager may or may not be assigned to a fire in these opportunity classes. The district manager will assign a prescribed fire manager for fires that are approaching five acres in size. The prescribed burn manager will be responsible for establishing the 100 acre perimeter and monitoring the fire as outlined in the Monitoring and Documentation section that follows. Fires smaller than 5 acres in size can be monitored periodically from the air. Observations made from the air will be recorded each time a fly-over is made of the fire. In the case of multiple fires, observations will be documented for each specific fire.

The logistics coordinator will notify the Arizona BLM State Office that we have a prescribed natural fire in progress. Daily updates of the fire will be submitted on the daily fire situation report.

The logistics coordinator will implement the smoke management portion of this plan.

Surrounding agencies will be notified of the prescribed natural fire in progress. These agencies include:

* Kaibab National Forest
* Grand Canyon National Park
* Lake Mead National Recreation Area
* Dixie National Forest
* Cedar City District BLM
* Kaibab Piaute Reservation
* Truxton Canyon Agency BIA
* Las Vegas District BLM
* Glen Canyon National Recreation Area

The district public affairs officer will prepare a news release on the prescribed natural fire in progress and release it to normal news media channels.

The maximum number of prescribed natural fires that will be allowed on the district at any one time is limited to five fires larger than 10 acres in size. Totally, these prescribed natural fires will not exceed 500 acres at any one time. From May 1 to August 31 the maximum fire size that will be allowed in the Mt. Trumbull or Mt. Logan Wilderness areas will be 100 acres. Also, no fire will be allowed to burn for more than 10 days. Regardless of size, any prescribed natural fire that is burning after 10 days will be extinguished. These two requirements do not apply between September 1 and April 30. Burning conditions during these months are not likely to become very intense.

Management Constraints

The fire management officer will prepare a contingency plan when there is prescribed natural fire activity to assure the number or area of live fire is within the district's capacity to manage. The contingency plan will be updated as changes in fire numbers or size changes. The Arizona State Office will keep the district notified of regional or national fire situations that could draw suppression forces from the district and impose constraints on prescribed natural fires.

In the event of a prescribed natural fire going out of prescription the prescribed burn manager in conjunction with the District FMO and the Vermillion Area Manager will evaluate the situation and determine if the fire will be allowed to burn to the 100 acre perimeter or suppressed inside the perimeter. If the decision is made to suppress the fire inside the 100 acre perimeter suppression costs will be charged to the benefiting activity. If the fire escapes the 100 acre perimeter it will be declared a wildfire and suppression costs will be charged to 4620.

The district manager has the authority to override this plan anytime the district's wildfire situation becomes so complex that adequate suppression forces are not available to safely manage a prescribed natural fire.

Monitoring and Documentation

Monitoring and documenting the effects prescribed natural fires have on the wilderness ecosystem will be very important in letting us know the kind of job we are doing and will help us better predict what fires will do the next time they occur in the same area. Ground monitoring of prescribed natural fires should attempt to secure the following information:

** Estimate of fuel loading and fuel consumption
** Vegetation changes
** Fire intensity and fire behavior
** Fire weather
** Fire effects

This information will be analyzed and placed in a file for the fire. Photographs should also be obtained if possible and made part of the fire file.

It will not be possible to obtain the information above while monitoring fires from the air. Aerial observers should try to acertain as much information as possible and write a narrative summary of what was occurring with the fire while they were over it. Notes on anything pertinant can be kept in the aircraft and the narrative completed as soon as the observer is back on the ground. Photographs or even video footage of the prescribed fires would be extremely beneficial.

SMOKE MANAGEMENT

A Class 1 airshed (Grand Canyon National Park) is immediately to the south and southeast of the Mt. Trumbull and Mt. Logan Wilderness areas. The predominant windflow during the time of year that any prescribed natural fires would occur is from the south. Smoke generated by any prescribed natural fire will travel to the north--away from the Class 1 airshed. Smoke accumulations will occur in drainages during the night due to downslope winds and nocturnal inversion layers. These areas should clear out very well the following day as temperatures warm up and winds pick up. There are no towns or cities of significant size near the wilderness areas that would be affected by smoke produced by any prescribed natural fires.

The following steps will be taken to comply with smoke management requirements:

* The logistics coordinator will contact the BLM Arizona State Office and advise them of the prescribed natural fire in progress. The appropriate staff at the state office will notify the Arizona State Land Department and obtain the necessary clearance.

* The District FMO will prepare a map showing smoke plume projections. Using a red marker for the daytime period, draw a line downwind of the burn for a distance representing 60 miles. Draw a 30-degree vector on each side of this centerline. For a distance reference, strike an arc at the 20, 40 and 60-mile points. Identify any major roads, communities, residences and other facilities inside this 60-mile arc.

Using a blue marker, designate the areas where smoke would probably concentrate at night. This should reflect the shift to down-canyon winds experienced at night, and could be a 180-degree turn from the daytime smoke plume projection. Identify any major roads, communities, residences and other facilities inside this area.

* The logistics coordinator will plot smoke plume projections on the district's land status map. Contacts will be established with Grand Canyon National Park personnel to check for any smoke dispersal problems.

* In the case that the State of Arizona wants a fire suppressed due to air stagnation conditions suppression actions will be initiated. Suppression actions within the 100 acre perimeter will be charged to the benefiting activity.

PRESCRIBED BURNING

Prescribed fires, ignited by BLM personnel, will be used in the Mt. Logan Opportunity Class III area to reduce the extremely high fuel loading that currently exists due to a pre-commercial thinning that took place 15 years ago. The majority of these burns will take place in the fall while conditions are cool. A site-specific plan, approved by the state director, is required before burning in the wilderness.

REHABILITATION

Rehabilitation measures may be required on some fires in the wilderness areas. If rehabilitation is desired on an area which was burned as a prescribed natural fire, the benefitting activity will provide funding. Funding for rehabilitation on areas that are actively suppressed will come from 4630.

Rehabilitation measures will be considered as a part of the Escaped Fire Situation Analysis and costs will be considered as a part of that analysis.

FIRE BEHAVIOR

The fire behavior by NFDRS fuel model when burning index is high is as follows:

FUEL MODEL C (Ponderosa pine)

Spotting potential = Moderate
Energy release = Moderate
Rate of spread = High
Resistance to control = Low

FUEL MODEL K (Ponderosa pine with slash)

Spotting potential = High
Energy release = High
Rate of spread = Moderate
Resistance to control = High

FUEL MODEL F (Pinyon-juniper brush)

Spotting potential = Low
Energy release = Moderate to High
Rate of spread = Moderate
Resistance to control = Moderate

UNCLASSIFIED (Pinyon-juniper with no ground fuel)

Spotting potential = Low
Energy release = Moderate
Rate of spread = Low
Resistance to control = Low

(These burning conditions apply to wildfires only and are not associated with fires burning within prescription as outlined above).

DECISION MATRIX
(Fuel Model C)

ITEM		ANSWER	ACTION
Life or Property Threatened		(YES)	SUPRESS
Boundary Threatened		(YES)	SUPRESS
Number of Prescribed Burns <5		(NO)	SUPRESS
Smoke Management Favorable		(NO)	SUPRESS
Prescription Criteria * Temperature Minimum Relative Humidity 10 Hr. Fuel Moisture 1,000 Hr. Fuel Moisture 20 Ft. Windspeed Live Fuel Moisture	 <75 >20% >15% >20% <10 mph >130%	(NO)	SUPRESS
Current Weather Forecast Favorable		(NO)	SUPRESS
Current Fire Behavior Favorable		(NO)	SUPRESS
Ten Day Forecast Favorable		(NO)	SUPRESS
Equipment/Personnel Available		(NO)	SUPRESS
Fire Meeting Wilderness Objectives		(NO)	SUPRESS
Fire is < 10 Days Old (May 1 to Aug 31)		(NO)	SUPRESS
Fire is < 100 Acres in Size (May 1 to Aug 31)		(NO)	SUPRESS

MONITOR

* Five of the six prescription criteria must be met to be in prescription

If the answer to the item matches the response in the answer column, supress the fire. If not, continue down the item column until all items are satisfied and the decision to monitor the fire can be made.

DECISION MATRIX
(Fuel Model F & Unclassified)

ITEM	ANSWER	ACTION
Life or Property Threatened	(YES)	SUPRESS
Boundary Threatened	(YES)	SUPRESS
Number of Prescribed Burns <5	(NO)	SUPRESS
Smoke Management Favorable	(NO)	SUPRESS
Prescription Criteria * Temperature < 85 Minimum Relative Humidity >10% 10 Hr. Fuel Moisture > 5% 20 Ft. Windspeed < 15 mph	(NO)	SUPRESS
Current Weather Forecast Favorable	(NO)	SUPRESS
Current Fire Behavior Favorable	(NO)	SUPRESS
Ten Day Forecast Favorable	(NO)	SUPRESS
Equipment/Personnel Available	(NO)	SUPRESS
Fire Meeting Wilderness Objectives	(NO)	SUPRESS
Fire is < 10 Days Old (May 1 to Aug 31)	(NO)	SUPRESS
Fire is < 100 Acres in Size (May 1 to Aug 31)	(NO)	SUPRESS

→ MONITOR FIRE

* Three of the four prescription criteria must be met to be in prescription

If the answer to the item matches the response in the answer column, supress the fire. If not, continue down the item column until all items are satisfied and the decision to monitor the fire can be made.

APPENDIX B

LAC PROCESS

As a management tool, the Limits of Acceptable Change System (LAC) is designed to be the primary method for ensuring long-term protection and preservation of wilderness values and at the same time, flexible enough to allow for site-specific situations, yet cost effective and accountable.

The flow chart at the end of this narrative summarizes both the step-by-step process as well as the kinds of planning products developed at each step. Each step, as completed, is put into a draft wilderness management plan outline (the outline approximates the standard BLM wilderness management plan format; however, to maximize the use and effectiveness of LAC, the revised format was developed).

In developing Step 2 of the LAC process for the MTW and MLW; it was apparent that several distinct wilderness settings are present; each fitting somewhere within the broad definition of wilderness. By recognizing and defining these differences as "opportunity classes," the planning effort actually zones each wilderness into three types of management units or areas. Each opportunity class has its own narrative description of the resource, social and managerial conditions that are considered appropriate and acceptable for management as wilderness. These descriptions are, in fact, the objectives which BLM will seek to achieve, maintain or enhance, as the case may be.

After describing the opportunity classes as sets of varying conditions (Step 2), the issues and concerns are grouped in categories called "factors"--such as vegetative conditions or solitude as affected by other users. Within these categories, key indicators were selected that reflect the overall condition of the factor and thus the overall health of the wilderness. The factors and indicators are the same in all opportunity classes for consistency of overall management of the areas. The opportunity classes specifically differ in the standards (or limits of acceptable change) selected for the indicators for each class (Step 5). The range of wilderness conditions is most obvious in the standards.

Many indicators were considered during the planning effort. The following is a list of possible indicators that were considered but not developed at this time:

WILDLIFE --Bird species diversity and abundance by occurrence --Number of Goshawk breeding pairs per 800 acres in mature ponderosa pine stands --Predator/prey ratios --Deer pellet counts --Mule deer sex ratios

SOLITUDE --Duration of encounters with others --Number of encounters with authorized motor users

VEGETATION --Plant composition --Fuel loading --Ground cover --Age class of timber stands --Timber stand potential

HUMAN INFLUENCE --Degree of visual contrast of developments

CULTURAL RESOURCES --Number of sites damaged by visitors and/or livestock, e.g., trailing, trampling, or collecting --Rate of erosion of sites induced by human or livestock activity --Number of undisturbed sites as compared to disturbed sites --Correlation of site vandalism with existing in-wilderness access routes

Table 6 in the plan shows the factors and indicators selected for the wildernesses and compares the standards chosen for each opportunity class. During the plan implementation period, other indicators may be selected to address future issues or concerns that are not now foreseen.

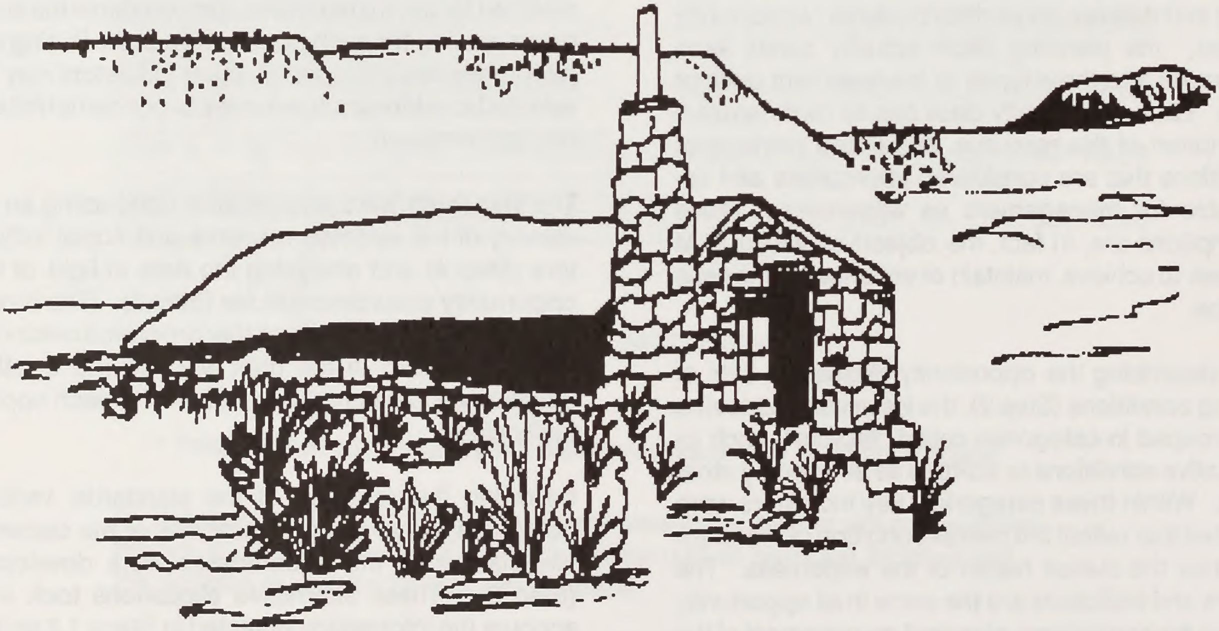
The standards were chosen after conducting an inventory of the selected resource and social indicators (Step 4) and analyzing the data in light of the opportunity class descriptions (Step 2). (The inventory of indicators as well as other program inventories are summarized in the draft plan as the Existing Situation and Assumptions sections for each opportunity class)

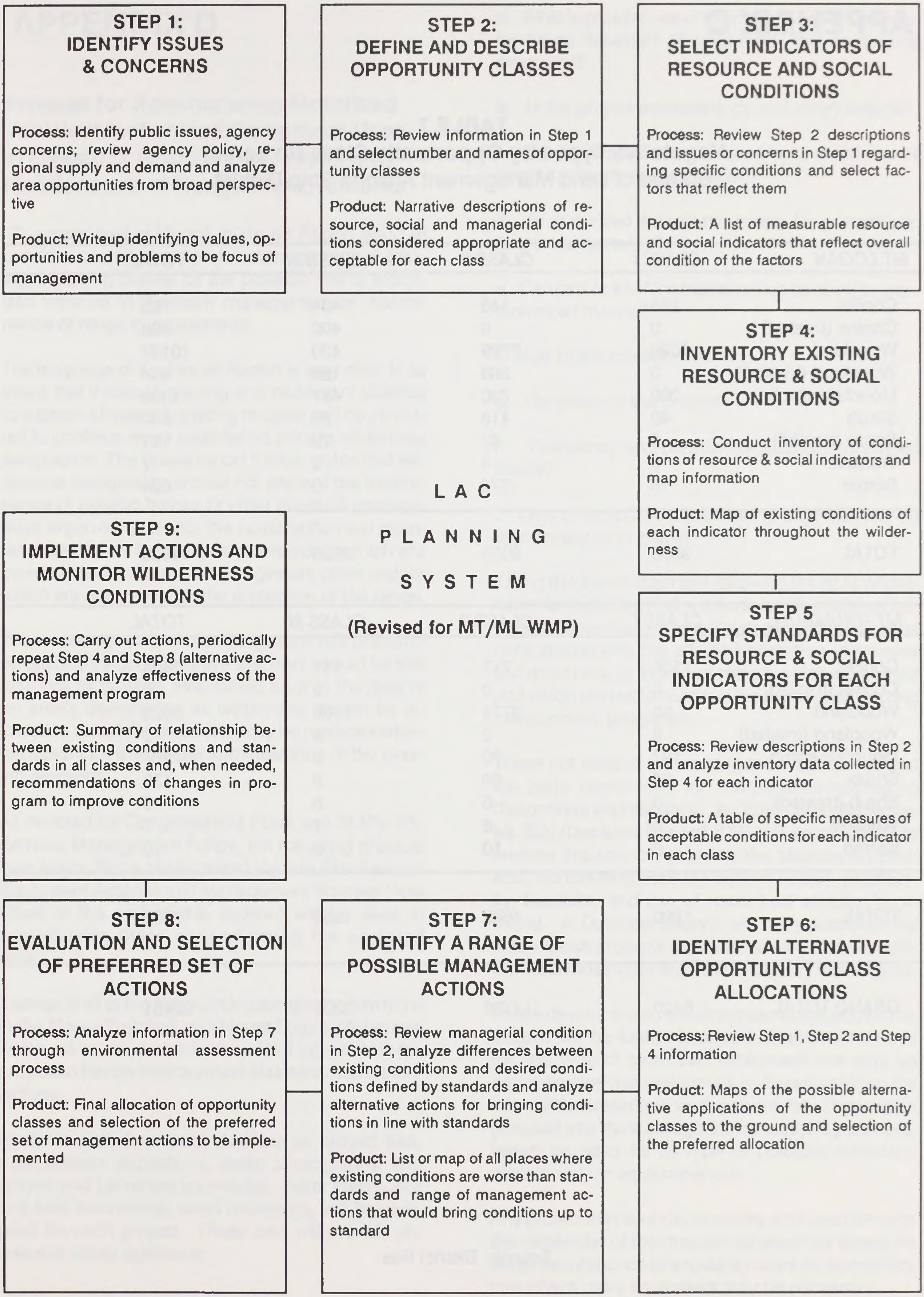
Following the selection of the standards, various possible applications or allocations of the opportunity classes to the wildernesses were developed (Step 6). These alternative allocations took into account the information obtained in Steps 1,2 and 4. Each alternative portrayed a different emphasis such as, providing for more Opportunity Class I acreage and less Class II or managing both wildernesses solely under an Opportunity Class III concept. After considering each alternative, a preferred allocation was selected (see Map A). Table 4 provides a summary of the approximate opportunity class acreages by wilderness.

Following the selection of the preferred opportunity class allocation, the Step 4 inventory was compared to the Step 5 standards within the mapped zones selected in Step 6. All places where existing conditions were worse than the standards for that area were documented. A list of management actions, ranging from no action to highly corrective, was developed to address the substandard conditions (Step 7). Additionally, many actions were developed that would take advantage of opportunities to enhance wilderness conditions beyond an already acceptable state.

The entire array of possible management actions were then grouped into three possible management programs; status quo, corrective and somewhat enhancing, and corrective and maximum enhancing. These alternative programs or sets of management actions became the three alternatives in the environmental assessment (Step 8), with the draft plan representing the proposed action.

Step 9 will be carried out once the wilderness management plan is approved.





LAC PLANNING SYSTEM

(Revised for MT/ML WMP)

STEP 1: IDENTIFY ISSUES & CONCERNS

Process: Identify public issues, agency concerns; review agency policy, regional supply and demand and analyze area opportunities from broad perspective

Product: Writeup identifying values, opportunities and problems to be focus of management

STEP 2: DEFINE AND DESCRIBE OPPORTUNITY CLASSES

Process: Review information in Step 1 and select number and names of opportunity classes

Product: Narrative descriptions of resource, social and managerial conditions considered appropriate and acceptable for each class

STEP 3: SELECT INDICATORS OF RESOURCE AND SOCIAL CONDITIONS

Process: Review Step 2 descriptions and issues or concerns in Step 1 regarding specific conditions and select factors that reflect them

Product: A list of measurable resource and social indicators that reflect overall condition of the factors

STEP 4: INVENTORY EXISTING RESOURCE & SOCIAL CONDITIONS

Process: Conduct inventory of conditions of resource & social indicators and map information

Product: Map of existing conditions of each indicator throughout the wilderness

STEP 5 SPECIFY STANDARDS FOR RESOURCE & SOCIAL INDICATORS FOR EACH OPPORTUNITY CLASS

Process: Review descriptions in Step 2 and analyze inventory data collected in Step 4 for each indicator

Product: A table of specific measures of acceptable conditions for each indicator in each class

STEP 6: IDENTIFY ALTERNATIVE OPPORTUNITY CLASS ALLOCATIONS

Process: Review Step 1, Step 2 and Step 4 information

Product: Maps of the possible alternative applications of the opportunity classes to the ground and selection of the preferred allocation

STEP 7: IDENTIFY A RANGE OF POSSIBLE MANAGEMENT ACTIONS

Process: Review managerial condition in Step 2, analyze differences between existing conditions and desired conditions defined by standards and analyze alternative actions for bringing conditions in line with standards

Product: List or map of all places where existing conditions are worse than standards and range of management actions that would bring conditions up to standard

STEP 8: EVALUATION AND SELECTION OF PREFERRED SET OF ACTIONS

Process: Analyze information in Step 7 through environmental assessment process

Product: Final allocation of opportunity classes and selection of the preferred set of management actions to be implemented

STEP 9: IMPLEMENT ACTIONS AND MONITOR WILDERNESS CONDITIONS

Process: Carry out actions, periodically repeat Step 4 and Step 8 (alternative actions) and analyze effectiveness of the management program

Product: Summary of relationship between existing conditions and standards in all classes and, when needed, recommendations of changes in program to improve conditions

TABLE 7
Vegetative Types by Opportunity Class (In acres)
Bureau of Land Management Arizona Strip District

MT.LOGAN	*CLASS I*	*CLASS II*	*CLASS III*	*TOTAL*
Conifer	235	146	404	785
Conifer (treated)	0	0	400	400
Woodland	3028	6729	430	10187
Woodland (treated)	0	268	166	434
Mountain shrub	209	730	457	1396
Shrub	40	418	86	544
Shrub (treated)	0	82	79	161
Wetland	0	4	3	7
Barren	18	676	0	694
TOTAL	3530	9053	2025	14608

MT. TRUMBULL	*CLASS I*	*CLASS II*	*CLASS III*	*TOTAL*
Conifer	1536	757	111	2404
Conifer (treated)	0	0	0	0
Woodland	95	3774	1160	5029
Woodland (treated)	0	0	0	0
Mountain shrub	197	70	0	267
Shrub	62	66	8	136
Shrub (treated)	0	0	0	0
Wetland	0	6	1	7
Barren	0	10	0	10
TOTAL	1890	4683	1280	7853
GRAND TOTAL	5420	13736	3305	22461

Source: District files

APPENDIX D

Process for Administering Motorized Vehicle/Mechanized Equipment Uses in Livestock Grazing Operations and Maintenance of Range Improvements

Congressional guidance in House Report 96-1126 provides overall direction for management of grazing, including criteria for the possible use of motorized vehicles in livestock management or maintenance of range improvements.

The language of the House Report is very clear in its intent that livestock grazing and necessary facilities to support a livestock grazing program will be permitted to continue when established prior to wilderness designation. The house report further states that wilderness designation should not prevent the maintenance of existing fences or other livestock management improvements, nor the construction and maintenance of new fences or improvements which are consistent with allotment management plans and/or which are necessary for the protection of the range.

The House concluded that the general rule of thumb on grazing management in wilderness should be that activities or facilities established prior to the date of an area's designation as wilderness should be allowed to remain in place and may be replaced when necessary for the proper administration of the grazing program.

As directed by Congressional intent and BLM's Wilderness Management Policy, the following process (see Major Steps of Motorized Vehicle/Mechanized Equipment Analysis and Management Process Flow Chart at the end of this section) will be used in administering these nonconforming but accepted uses.

Listings of all of the range improvements known to be in the Mount Trumbull and Mount Logan Wilderness Areas are found at conclusion of this appendix in the proposed Range Improvement Maintenance Authorizations.

Available data from such sources as project files, maintenance inspections, aerial photographs, employee and permittee knowledge, water inventories and field inventories, when necessary, will be compiled for each project. These data will provide answers to these questions.

a. What is present use of the project and is it needed for future Allotment Management Plan or grazing programs?

b. Is the project accessible by motorized vehicle?

c. Was motorized access used in its maintenance prior to wilderness designation?

d. Is motorized access necessary for present and future maintenance?

e. Can part or all of the maintenance be done by non-motorized means?

f. Age of the project?

g. Condition of the project?

h. Frequency and duration of possible motorized needs?

i. Type of motorized equipment (if any) that may be appropriate or available?

Using this information and following the BLM Wilderness Management Policy criteria for structural rangeland improvements the authorized officer will, after consultation with the affected permittee, determine and document, by individual project, which are needed and which are not to continue the allotments' grazing management programs.

Those not needed will no longer be maintained and the party responsible for maintenance notified to discontinue maintenance. An Environmental Analysis (EA)/Decision Record (DR) will be prepared to analyze impacts of removing the abandoned projects, considering possible cultural values, practicality, feasibility and use of motorized vehicles in removal. A Decision Record will then document by name those projects where removal will be considered and those to be allowed to naturally disintegrate.

Those developments which appear at this point to be needed will be further analyzed relative to the need for and type of motorized equipment that may be necessary for their maintenance--based again on the information described by the above list. They will be grouped into three categories for analysis purposes, based on need for or type of possible motorized vehicle and/or equipment use.

Any project may be independently evaluated through the remainder of the process (at separate times) for either maintenance of a routine nature or reconstruction where more equipment may be necessary.

For those projects where it is conclusively determined that neither motorized vehicles nor mechanized equipment will be required in maintenance, no further analysis will be made. A list of these projects will be prepared, the grazing permittee notified and the list and maintenance decision made a condition of the AMP and/or grazing permits by reference. On this basis, the permittees will be authorized to proceed with non-motorized maintenance.

Compliance with these non-motorized requirements will be a component of BLM's wilderness monitoring program.

A second proposed list by priority of need will be prepared for those projects where occasional motorized vehicle use is deemed necessary to inspect or maintain the improvements. Normal vehicle use expected would be ATVs or trucks up to 2-1/2 tons to haul materials or livestock.

A site-specific environmental analysis (EA) will be prepared to analyze environmental impacts of alternatives with respect to type, frequency of trips and access routes for motorized vehicles on each individual project or group of projects where the proposed vehicle uses and potential environmental impacts are the same. It will also consider factors such as minimum tools or possible project relocation outside of the wilderness area.

These EAs will be prepared in priority order as rapidly as possible following issuance of the final Wilderness Management Plan and will be available for public review upon request.

A decision record (DR) will be prepared to document the alternative selected and mitigating measures for each project.

Upon completion of these EAs and DRs, a written maintenance plan will be prepared in consultation with the permittee and based on mitigating measures developed in the EA and in conformance with the decision record. It will detail timing, vehicle type, number of trip(s), authorized person(s) and record keeping requirements.

This plan will be incorporated into the AMP and grazing permit by reference and will, upon approval, authorize the permittee to make motorized uses as specified during the normal grazing period for the allotment.

In making uses authorized in the maintenance plan, each permittee will be required to keep accurate records of date, time, type vehicle, trail used, purpose and duration of any motorized entry. This log will be submitted to the BLM at the end of the grazing period.

Field compliance on these motorized vehicle entries will be made and documented. Findings can then be compared to the records submitted by the permittee to detect and correct discrepancies or violations.

Vehicle entry deemed necessary specifically for livestock management purposes will be processed in the manner described above with the same constraints, reporting requirements and monitoring procedures.

The third project grouping includes those developments where heavy earth-moving equipment is deemed necessary. These proposals will require a minimum 60-day notice from a permittee of the possible need for project maintenance. The project is examined in the field and a site-specific EA is prepared that examines the need for maintenance and alternatives of access, equipment, tool(s), timing, possible relocation as well as recommendations of mitigating measures and reclamation requirements.

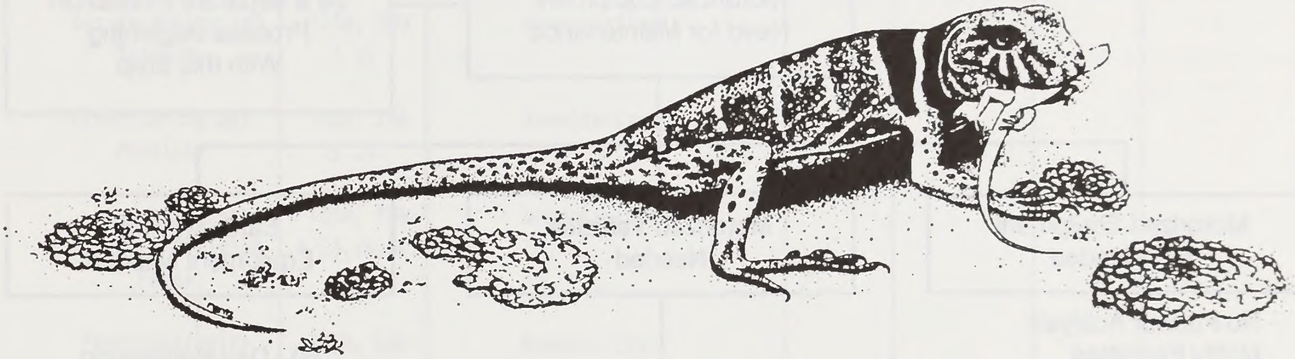
A DR is prepared that selects an alternative with mitigating measures or a no action alternative. If the decision permits the action to proceed, the permittee is notified of the terms and timing approved. It is standard procedure to have a BLM wilderness or surface protection specialist on site during any earth-moving operations to assure compliance with terms and to supervise reclamation.

Throughout this process, it may be found that individual projects have been improperly classified as to the need for continued use of the improvement or need for equipment use. For example a project expected to require motor vehicle access may be found by the EA analysis to not need vehicles; a heavy equipment proposal may be found to be accomplished with motorized vehicles or vice versa or a project preliminarily determined to be not needed, may upon further analysis be found to be needed. In these cases, the project's processing will be transferred to the more appropriate procedures that cover the newly determined situation.

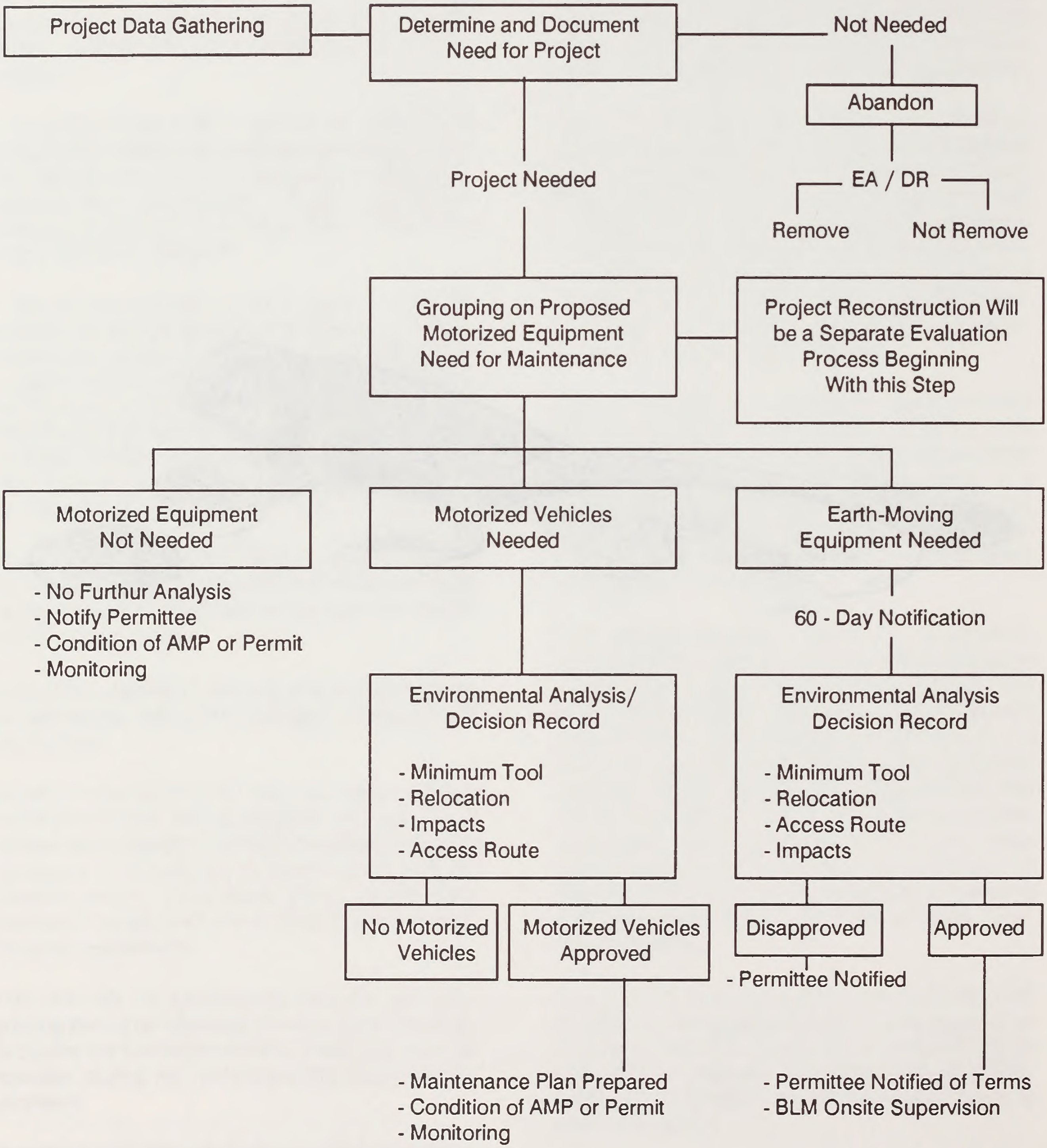
At any point in this process, the authorized officer will consider all information available and approve or deny proposals for emergency motorized use to protect life or property. Considerations will include validity of the emergency and potential impacts to wilderness values.

Proposed use of vehicles for all purposes (livestock management, improvement inspection or maintenance) will be considered in total prior to approval and trips combined where practicable to minimize the overall amount of vehicle use.

All inventories, lists analysis, EAs, DRs, monitoring and compliance files will be available for public review on request.



Major Steps of Motorized Vehicle/Mechanized Equipment Analysis and Management Process


Project Data Gathering
Determine and Document Need for Project
Not Needed
Abandon
EA / DR
Remove
Not Remove
Project Needed
Grouping on Proposed Motorized Equipment Need for Maintenance
Project Reconstruction Will be a Separate Evaluation Process Beginning With this Step
Motorized Equipment Not Needed
- No Furthur Analysis
- Notify Permittee
- Condition of AMP or Permit
- Monitoring
Motorized Vehicles Needed
Earth-Moving Equipment Needed
60 - Day Notification
Environmental Analysis/ Decision Record
- Minimum Tool
- Relocation
- Impacts
- Access Route
Environmental Analysis Decision Record
- Minimum Tool
- Relocation
- Access Route
- Impacts
No Motorized Vehicles
Motorized Vehicles Approved
Disapproved
- Permittee Notified
Approved
- Maintenance Plan Prepared
- Condition of AMP or Permit
- Monitoring
- Permittee Notified of Terms
- BLM Onsite Supervision

RANGE IMPROVEMENT MAINTENANCE AUTHORIZATION
(PROPOSED)

WILDERNESS: Mt. Trumbull **ALLOTMENT:** Tuweep

PERSONS AUTHORIZED: Ray Schmutz **GRAZING PERIOD:** Spring, Summer, Fall

The following chart indicates the motorized vehicle use (other than earth-moving equipment) authorized in the wilderness for the grazing period above. Motor vehicle use in the wilderness is authorized only for the purposes of range improvement maintenance and operations necessary for the grazing program. Actual use of motor vehicles must be documented on the chart following each use.

APPROVED MAINTENANCE FOR 1939			1989 ACTUAL USE		1990 PROPOSED USE	
RANGE IMPROVEMENT	LOCATION	TYPE OF VEHICLE USE APPROVED (PROPOSED)	DATE	NUMBER OF TRIPS	DATE	PURPOSE OF TRIP
Nixon Spring and Pipeline	T35N, R8W S 27,28,33, 34	Nonmotorized				
Coyote Spring and Pipeline	T35N, R8W S 22	Nonmotorized				
Orson Spring and Pipeline	T35N, R8W S 23	Nonmotorized				
Ponderosa/East Trumbull Division Fence	T35N, R8W S 23,26,34, 35	Nonmotorized				
Ponderosa/White Spring Division Fence	T35N, R8W S 21,22,23	Nonmotorized				

Special Maintenance Situations:

- Heavy Equipment Use/Major Reconstructions:

  Earth-moving or heavy equipment use requires that a notification be filed with the BLM 60 days prior to the operation so that an environmental assessment can be written, a 30-day public review done and a decision made.

- Emergencies (Human Life or Property):

  -- Minor Emergencies -- Emergency motor vehicle use where one trip is needed, such as pipeline repair or removing a sick cow, is authorized providing the BLM is notified after the fact by telephone or in writing.

  -- Major Emergencies -- Emergency motor vehicle use where more than one trip is needed, such as repairing extensive damage to pipelines or fences, is authorized providing the BLM is notified after the first vehicle use and before the additional trips are granted.

General:

All vehicle use should be kept to a minimum. Inspections or light maintenance should be done on foot or horseback if possible.

Any use of motorized vehicles or mechanized equipment not specifically authorized by this plan must have advance approval by the BLM District Manager. Without this approval, the use is a violation of 43 CFR 4140.1(a)(1) and 43 CFR 8560.1-2.

This annual authorization will be included as a stipulation on your grazing permit.

__________________________________ (District Manager)

________________ (Date)

RANGE IMPROVEMENT MAINTENANCE AUTHORIZATION
(PROPOSED)

WILDERNESS: Mt. Logan **ALLOTMENT:** Big Springs

PERSONS AUTHORIZED: Anthony Heaton **GRAZING PERIOD:** Year-round

The following chart indicates the motorized vehicle use (other than earth-moving equipment) authorized in the wilderness for the grazing period above. Motor vehicle use in the wilderness is authorized only for the purposes of range improvement maintenance and operations necessary for the grazing program. Actual use of motor vehicles must be documented on the chart following each use.

APPROVED MAINTENANCE FOR 1989			1989 ACTUAL USE		1990 PROPOSED USE	
RANGE IMPROVEMENT	LOCATION	TYPE OF VEHICLE USE APPROVED (PROPOSED)	DATE	NUMBER OF TRIPS	DATE	PURPOSE OF TRIP
Hells Hollow Pipeline	T34N, R9W S 19,24,25	Nonmotorized				
Big Spring and Pipeline	T34N, R8W S 19,30,31 and 32	Ingress/Egress on existing road to private land. Pipeline through Sections 30,31,32 is nonmotorized				
Big Spring Pond #1	T34N, R8W S 31	Nonmotorized (Abandon)				
Big Spring Pond #2	T34N, R8W S 32	Nonmotorized (Abandon)				
Heaton Pond	T34N, R9W S 25	Nonmotorized				
Recreation Area Boundary Pond	T33N, R9W S 13	Nonmotorized				
Upper Big Spring Road	T34N, R8W S 18,19,20	Gate installed and locked. Planning permittee closure and rehabilitation				
Old Forest Service Boundary Fence	T34N, R8W S 19,20,29, 30	Nonmotorized				
Petty/Slide Mtn. Fence	T34N, R8W S 20	Nonmotorized				
Nixon/Cold Fence	T34N, R9W S 2,11	Nonmotorized in wilderness				

Special Maintenance Situations:

- Heavy Equipment Use/Major Reconstructions:

  Earth-moving or heavy equipment use requires that a notification be filed with the BLM 60 days prior to the operation so that an environmental assessment can be written, a 30-day public review done and a decision made.

- Emergencies (Human Life or Property):

  -- Minor Emergencies -- Emergency motor vehicle use where one trip is needed, such as pipeline repair or removing a sick cow, is authorized providing the BLM is notified after the fact by telephone or in writing.

  -- Major Emergencies -- Emergency motor vehicle use where more than one trip is needed, such as repairing extensive damage to pipelines or fences, is authorized providing the BLM is notified after the first vehicle use and before the additional trips are granted.

General:

All vehicle use should be kept to a minimum. Inspections or light maintenance should be done on foot or horseback if possible.

Any use of motorized vehicles or mechanized equipment not specifically authorized by this plan must have advance approval by the BLM District Manager. Without this approval, the use is a violation of 43 CFR 4140.1(a)(1) and 43 CFR 8560.1-2.

This annual authorization will be included as a stipulation on your grazing permit.

____ ____________________
(District Manager) (Date)

RANGE IMPROVEMENT MAINTENANCE AUTHORIZATION
(PROPOSED)

WILDERNESS: Mt. Logan **ALLOTMENT:** Mt. Logan

PERSONS AUTHORIZED: Cecil Blake **GRAZING PERIOD:** Summer, Fall

The following chart indicates the motorized vehicle use (other than earth-moving equipment) authorized in the wilderness for the grazing period above. Motor vehicle use in the wilderness is authorized only for the purposes of range improvement maintenance and operations necessary for the grazing program. Actual use of motor vehicles must be documented on the chart following each use.

APPROVED MAINTENANCE FOR 1989			1989 ACTUAL USE		1990 PROPOSED USE	
RANGE IMPROVEMENT	LOCATION	TYPE OF VEHICLE USE APPROVED (PROPOSED)	DATE	NUMBER OF TRIPS	DATE	PURPOSE OF TRIP
Old Forest Service Boundary Fence	T34N, R8W S 19,20,29, 30	Nonmotorized				
Petty/ Slide Mtn. Fence	T34N, R8W S 20	Nonmotorized				

Special Maintenance Situations:

- Heavy Equipment Use/Major Reconstructions:

  Earth-moving or heavy equipment use requires that a notification be filed with the BLM 60 days prior to the operation so that an environmental assessment can be written, a 30-day public review done and a decision made.

- Emergencies (Human Life or Property):

  -- Minor Emergencies -- Emergency motor vehicle use where one trip is needed, such as pipeline repair or removing a sick cow, is authorized providing the BLM is notified after the fact by telephone or in writing.

  -- Major Emergencies -- Emergency motor vehicle use where more than one trip is needed, such as repairing extensive damage to pipelines or fences, is authorized providing the BLM is notified after the first vehicle use and before the additional trips are granted.

General:

All vehicle use should be kept to a minimum. Inspections or light maintenance should be done on foot or horseback if possible.

Any use of motorized vehicles or mechanized equipment not specifically authorized by this plan must have advance approval by the BLM District Manager. Without this approval, the use is a violation of 43 CFR 4140.1(a)(1) and 43 CFR 8560.1-2.

This annual authorization will be included as a stipulation on your grazing permit.

____ (District Manager)

____________________ (Date)

APPENDIX E

List of Plan Participants

NAME	*POSITION*
Ilene Anderson	Realty Specialist
Julian Anderson	Assistant District Manager-Resources
John Ash	Range Conservationist
George Cropper	Shivwits Area Manager
Jim Currivan	State Office Wilderness Coordinator
Bob Davis	Natural Resource Specialist
Thomas Folks	Outdoor Recreation Planner
Larry Gearhart	Outdoor Recreation Planner
Carl Gossard	Fire Management Officer
Michael Herder	Wildlife Biologist / Computer Graphics
Chris Horyza	Automated Data Processing Consultant
Jack Johnson	Natural Resource Specialist
William Lamb	Arizona Strip District Manager
Ray Mapston	Associate District Manager
Ken Moore	Environmental Coordinator
Holly Roberts	Natural Resource Specialist
Rob Roudabush	Vermillion Area Manager
Bob Sandberg	Supervisory Range Conservationist
Kevin Schoppmann	Range Conservationist
Mike Small	Wildlife Biologist
Bob Smith	Natural Resource Specialist
Jennifer Jack (In memoriam)	Archaeologist

APPENDIX F

Public Involvement Process

During the Arizona Strip wilderness review period (1978-1984), public participation was solicited at appropriate times for scoping wilderness issues and reviewing draft documents of the initial and intensive inventories, special inventories and environmental impact statement. The scoping and review during this period dealt with whether or not areas should or should not be designated.

With the passage of the Arizona Wilderness Act of 1984 came the need for public participation in the scoping of issues related to management of designated areas.

In October of 1985, a series of public scoping meetings were held in five locations in Utah and Arizona. The intent of these meetings was to document public issues and concerns regarding wilderness management in five areas, including Mt. Trumbull and Mt. Logan Wildernesses. Many issues or concerns were identified from this public input and from BLM personnel familiar with the areas.

In January of 1987, BLM solicited input from the three livestock grazing permittees who are affected by the wilderness designations in the Uinkaret Mountains area. Information was obtained regarding the type and location of all range developments, both active and abandoned, and the type and frequency of motorized or mechanized maintenance the permittees believed would be necessary to continue viable livestock operations. This information led to the development of the proposed range maintenance schedules.

At about the same time, the owner of the private inholding at Big Spring in the Mt. Logan Wilderness was contacted to initiate negotiations for the sale or exchange of the inholding.

The planning effort included the utilization of a steering committee. The committee was developed by inviting 11 individuals representing various interest groups and several other agencies, including the National Park Service, to attend a two-day tour of portions of the wildernesses and to discuss the planning approach being taken. Additionally, the group would review the various planning steps that had been completed at that time. In August of 1987 only three individuals were able to attend, but discussions following the tour were enlightening and provided excellent information for making adjustments to the direction of the plan.

Future public involvement will include a 45-day period during which comments may be made concerning the plan. Comments will be analyzed and necessary plan revisions made. This section of the plan will be expanded to include categorization and discussion of public comments.

APPENDIX G

GLOSSARY

ACRONYMS & ABBREVIATIONS:

AG&F: Arizona Game and Fish
AGL: Above Ground Level
ALDS: Automated Lightning Detection System
AMP: Allotment Management Plan
AUM: Animal Unit Month
AZ-IM-: Arizona Instruction Memorandum
BLM: Bureau of Land Management
CFR: Code of Federal Regulations
FMO: Fire Management Officer
G&SRM: Gila and Salt River Meridian
LAC: Limits of Acceptable Change
MLW: Mount Logan Wilderness
MNA: Museum of Northern Arizona
MTW: Mount Trumbull Wilderness
NFS: National Forest Service
RAWS: Remote Automated Weather Station
SRP: Special Recreation Permit
T&E: Threatened and Endangered
TDS: Total Dissolved Solids
TSP: Total Suspended Particulates
USGS: United States Geological Survey
WO-IM-: Washington Instruction Memorandum

ACTIVE PREFERENCE (GRAZING): The total animal unit months (AUMs) that a livestock operation or allotment is authorized to use in a year. Also referred to as Qualifications.

ACTIVE NONUSE (GRAZING): The active grazing preference not used or paid for by an operation during a year. Active nonuse and active use equal active grazing preference or qualifications.

ACTIVE PREFERENCE: Current authorized livestock grazing use.

ACTIVE USE (GRAZING): The number of AUMs that a livestock operation actually uses and pays for during a year.

ADMINISTRATIVE: Management functions belonging to agency personnel.

ADMINISTRATIVELY ENDORSED: Management direction or policy supported by an agency but not necessarily supported or addressed by Congress.

ALLOTMENT: A land area where one or more operators graze their livestock. It generally consists of public land but may include parcels of private and state-owned lands. The number of livestock and season of use are stipulated for each allotment. An allotment may consist of one or several pastures.

ALLOTMENT MANAGEMENT PLAN (AMP): A livestock grazing management plan for a specific allotment, based on multiple use resource management objectives. The AMP considers livestock grazing in relation to other uses of the range and in relation to renewable resources--watershed, vegetation, and wildlife. An AMP establishes the seasons of use, the number of livestock to be permitted on the range and the rangeland developments needed.

ANIMAL UNIT (AU): Considered to be the forage required for one mature (1,000 pound) cow or the equivalent based upon average daily forage consumption of 26 pounds dry matter per day (Range Term Glossary Committee, 1974).

ANIMAL UNIT MONTH (AUM): The amount of forage necessary for the sustenance of one cow or its equivalent for one month.

CARRYING CAPACITY (RECREATION): The maximum number of people at one time that an area or facility can accommodate without impairing the natural, cultural or developed resource.

COMPUTER DIGITIZED: The conversion and storage of line information from a map to x,y coordinates using computer technology.

CONCERN: An apprehension or point of dispute involving a resource management activity or land use where the relationships between the activity or use and undesirable results is not well defined.

CONDITION CLASS RATING: An indication of the severity of a variety of recreational impacts to soils and vegetation.

CULTURAL RESOURCES: Those fragile and nonrenewable remains of human activities, occupations and endeavors as reflected in sites, buildings, structures or objects, including works of art, architecture and engineering. Cultural resources are commonly discussed as prehistoric and historic values, but each period represents a part of the full continuum of cultural values from the earliest to the most recent.

CUMULATIVE IMPACTS: Impacts occurring as a result of a succession of activities over a period of time.

DISPERSED RECREATION: Visitors engaging in various activities for enjoyment or refreshment and spread widely over large areas of public lands; activities are less structured and settings are less developed.

ECOLOGICAL CONDITION: The present state of vegetation in a given area in relation to the potential natural (climax) plant community for that site. It is an expression of the relative degree to which the kinds, proportions and amounts of plants in a plant community resemble that of the potential natural plant community for the site. It is basically an ecological rating of the plant community.

ECOTONAL: Of or pertaining to a specific ecotone type or system; a specific environment.

ENDANGERED ANIMAL SPECIES: Any species in danger of extinction throughout all or a significant portion of its range. This definition excludes species of insects that the Secretary of the Interior determines to be pests and whose protection under the Endangered Species Act of 1973 would present an overwhelming and overriding risk to humans.

ENDANGERED PLANT SPECIES: Species of plants in danger of extinction throughout all or a significant portion of their ranges. Existence may be endangered because of the destruction, drastic change or severe curtailment of habitat or because of overexploitation, disease, predation or even unknown reasons. Plant species from very limited areas, e.g., the type localities only, or from restricted fragile habitats, usually are considered endangered. See also Threatened Plant Species.

EPHEMERAL STREAM: A stream that flows only briefly after a storm or during snowmelt. See Perennial Stream.

FACTOR: A generalization of similar resource, social, or managerial issues or concerns.

FIRE PRESCRIPTION: Advance, written direction which defines the environmental parameters within which fire will be managed and the methods which will be used.

HABITAT: A specific set of physical conditions that surround the single species, a group of species or a large community. In wildlife management, the major components of habitat are considered to be food, water, cover and living space.

HABITAT MANAGEMENT PLAN (HMP): A written and officially approved plan (for a specific geographical area of public land) that identifies wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives, and outlines procedures for evaluating accomplishments.

HUMAN-CAUSED IGNITION: Fire ignited by agency personnel to accomplish desired objectives for vegetative communities.

IGNITION (NATURAL AND OTHERWISE): The action of setting aflame combustible material; either by natural cause (lightning) or human cause.

INDICATORS: Specific variables that, singly or in combination, are taken as indicative of the condition of the overall opportunity class. These variables allow the manager to unambiguously define desired conditions and to assess the effectiveness of management practices.

ISSUE: A matter of controversy or dispute over resource management activities or land use that is well defined and/or topically discrete. Usually the causal relationship between the activity or use and undesirable results are well defined or documentable. Statements of the planning issues orients the management planning process.

LIMITS OF ACCEPTABLE CHANGE (LAC): The amount of human-caused change to biophysical or social components which is tolerable, without the loss of desired wilderness conditions.

LIVESTOCK OPERATOR: An individual, family, corporation or other entity that runs a livestock operation. An operator may have a single allotment, more than one allotment, or a portion of an allotment.

MANAGEMENT FRAMEWORK PLAN (MFP): A land use plan for public lands that provides a set of goals and constraints for a specific planning area to guide the development of detailed plans for the management of each resource.

MINIMUM TOOL POLICY: Management direction which stresses the administrative use of the minimum tool, equipment or structure necessary to successfully, safely and economically accomplish a desired objective.

MECHANIZED EQUIPMENT: "Mechanized equipment" means any machine activated by a nonliving power source, except small battery-powered, handcarried devices such as flashlights, shavers, Geiger counters and cameras.

MOTOR VEHICLES: "Motor vehicle" means any vehicle which is self-propelled or any vehicle which is propelled by electric power obtained from batteries. For wilderness purposes "mountain bikes" are included in this definition.

MULTIPLE USE: "...the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values, and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." (From Section 103, FLPMA).

NATURAL FIRES: Fires ignited by lightning and which burn under conditions that are or have not been influenced by man.

NATURALNESS: Refers to an area which "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." (From Section 2(c), Wilderness Act).

NONCONFORMING USES: Private rights and certain other uses that were authorized prior to wilderness designation and that Congress has directed to be allowed to continue even though they generally do not conform to the intent of wilderness designation.

OFF-ROAD VEHICLE (ORV): Any motorized vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland or other natural terrain, excluding (a) any registered motorboat, (b) any fire, military, emergency, or law enforcement vehicle when used for emergencies and any combat or combat support vehicle when used for national defense, and (c) any vehicle whose use is expressly authorized by the respective agency head under a permit, lease, license, or contract.

OPPORTUNITY CLASS: A hypothetical but qualitative description of the range of social and resource conditions desired for management of an area. The opportunity class definition provides a rationale against which the appropriateness of indicators, standards and management actions can be tested; it also establishes management objectives for the area.

PERENNIAL STREAM: A stream that flows throughout the year.

PETROGLYPH: An art figure or symbol cut, carved or pecked into a stone surface.

PRESCRIBED FIRE: A fire which burns within the parameters established by a fire prescription.

PRIMITIVE AND UNCONFINED RECREATION: Nonmotorized and nondeveloped types of outdoor recreation.

PRIMITIVE AREA: A natural, wild and undeveloped area, essentially removed from the effects of civilization.

PUBLIC LAND: Formal name for lands administered by the Bureau of Land Management.

RANGE CONDITION: The present state of a vegetation sub-type determined by a subjective assessment of the mix of forage and browse species. Range condition for a sub-type may be rated good, fair or poor.

RANGE IMPROVEMENT: A structure, development or treatment used in concert with management to rehabilitate, protect and improve public land and its resources to arrest rangeland deterioration; and to improve forage condition, fish and wildlife habitat, watershed protection and livestock production, all consistent with land use plans.

RAPTORS: Birds of prey.

RESOURCE AREA: An administrative division of a BLM District, which is headed by an area manager.

RIPARIAN: Situated on or pertaining to the bank of a river, stream or other body of water. Riparian areas and associated vegetation are often found along intermittent streams in high desert and plateau regions. Normally used to refer to the plants of all types that grow along streams or around springs.

ROADLESS: The absence of roads that have been improved and maintained by mechanical means to insure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road.

SERAL: Of, relating to or characteristic of a series of ecological communities that follow one another in the course of the biotic development of an area.

SETTING COMPONENT: A portion of an opportunity class description. It describes, in general terms, the desired environmental or social conditions as objectives to be achieved and/or maintained.

SOLITUDE: The state of being alone or remote from habitations--isolation in a lonely, unfrequented, or secluded place.

SPECIAL RECREATION AREA: Recreation areas with congressionally recognized recreation values or with significant public recreation issues or management concerns. Special or more intensive types of management are typically needed.

STANDARD: Measurable aspects of indicators which provide a base against which a particular condition can be judged as acceptable or not.

SUPPLEMENTAL VALUES: Resources not required for an area to be designated a wilderness but that are considered in assessing the wilderness potential of an area. Such values include ecological, geologic and other features of scientific, educational, scenic or historical value.

SUSPENDED GRAZING PREFERENCE: That portion of a grazing preference which has been suspended and for which active grazing use will not be reauthorized until forage is available and allocated for livestock grazing use on a sustained yield basis.

THREATENED ANIMAL SPECIES: Any animal species likely to become endangered within the foreseeable future throughout all or a significant part of its range. See Endangered Animal Species.

THREATENED PLANT SPECIES: Species of plants that are likely to become endangered within the foreseeable future throughout all or a significant portion of their ranges, including species categorized as rare, very rare or depleted. See Endangered Plant Species.

TREND: The prevailing tendency or general course of vegetative conditions. It is applied to range or ecological conditions. It may be rated along a continuum from downward to static to upward.

UNDISPERSED RECREATION: Visitors collectively engaging in various activities for enjoyment or refreshment--activities are structured in developed settings.

UNNECESSARY OR UNDUE DEGRADATION: Surface disturbance greater than what would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations. Failure to initiate and complete reasonable mitigation measures, including reclamation of disturbed areas, or creation of a nuisance may constitute unnecessary or undue degradation. Failure to comply with applicable environmental protection statutes and regulations thereunder will constitute unnecessary or undue degradation.

UTILIZATION: The proportion or degree of current year's forage production that is consumed or destroyed by animals (including insects). It may refer either to a single plant species, a group of species, or to the vegetation as a whole. Utilization is synonymous with use.

VALID EXISTING RIGHTS: Private or other authorized rights existing as of the date an area was designated as wilderness. Examples are valid mining claims, rights-of-way and access to private land within the wilderness.

VISITOR USE: Visitor use of the wilderness resource for inspiration, stimulation, solitude, relaxation, education, pleasure or satisfaction.

VISUAL RESOURCE MANAGEMENT (VRM) CLASSES: Classification of specific objectives for maintaining or enhancing visual resources, including the kinds of structures and modifications acceptable to meet established visual goals.

WILDERNESS: An uncultivated, uninhabited, and usually roadless area set aside for preservation of natural conditions. According to Section 2(c) of the Wilderness Act of 1964:

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to man in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

WILDERNESS CHARACTERISTICS: Key characteristics of a wilderness listed in section 2(c) of the Wilderness Act of 1964 and used by BLM in its wilderness inventory. These characteristics include size, naturalness, opportunities for solitude, opportunities for primitive or unconfined recreation, supplemental values, and the possibility of an area returning to a natural condition.

WILDERNESS MANAGEMENT PLAN: An officially approved planning document for specific congressionally designated wilderness areas and in some cases lands immediately adjacent to wilderness areas (e.g., trailheads). The wilderness management plan is the vehicle for implementation of the Bureau's Wilderness Management Policy (BLM Manual Section 8560).

WITHDRAWAL: An action that restricts the use of public land and segregates the lands from some or all of the public land or mineral laws.

APPENDIX H

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ARIZONA STRIP DISTRICT

MT. TRUMBULL WILDERNESS and MT. LOGAN

LEGEND

—·—·— Wilderness Boundary (Approximate)

——— National Park Service Boundary

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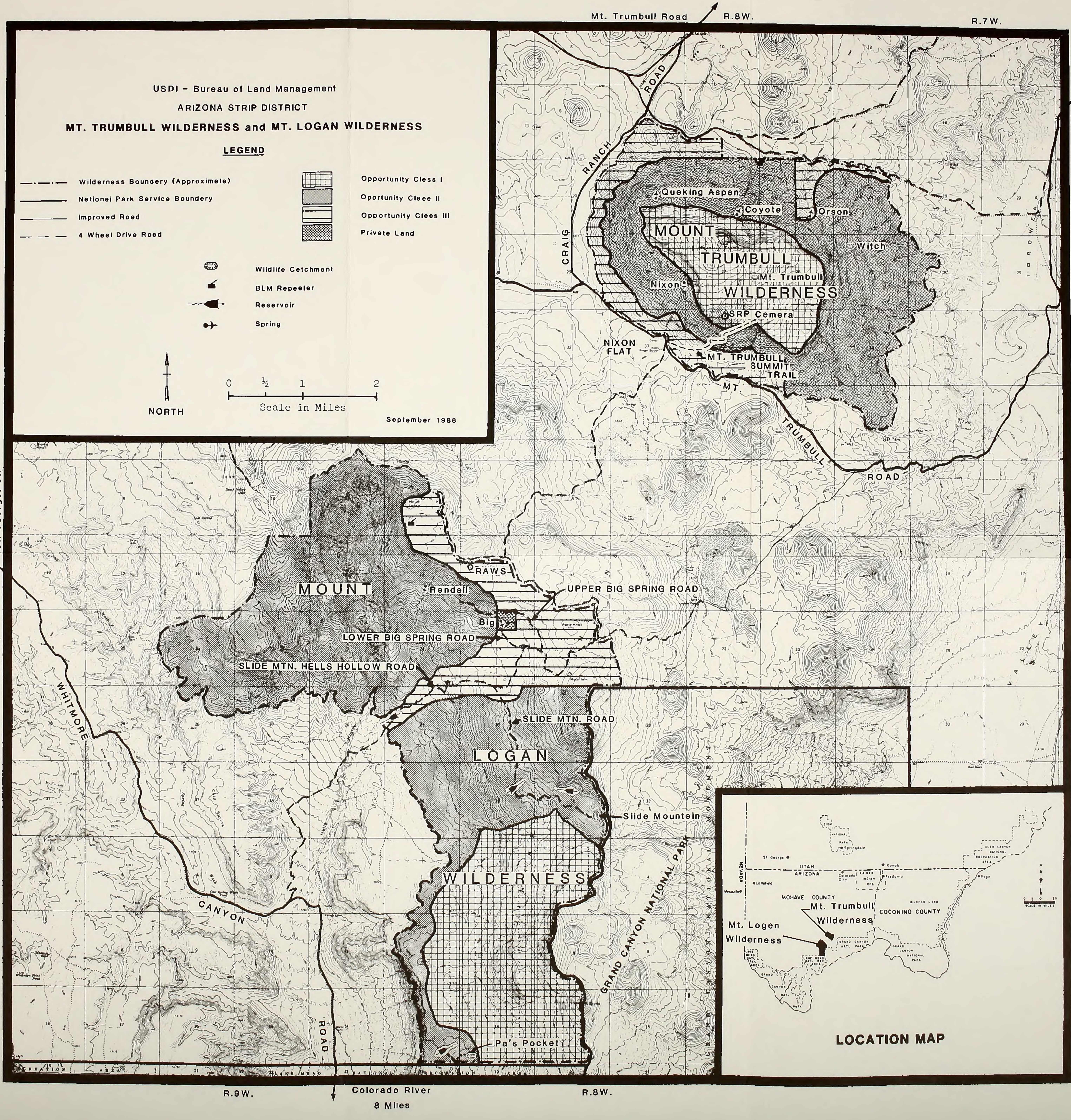
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ARIZONA STRIP DISTRICT
MT. TRUMBULL WILDERNESS and MT. LOGAN WILDERNESS

September 1988